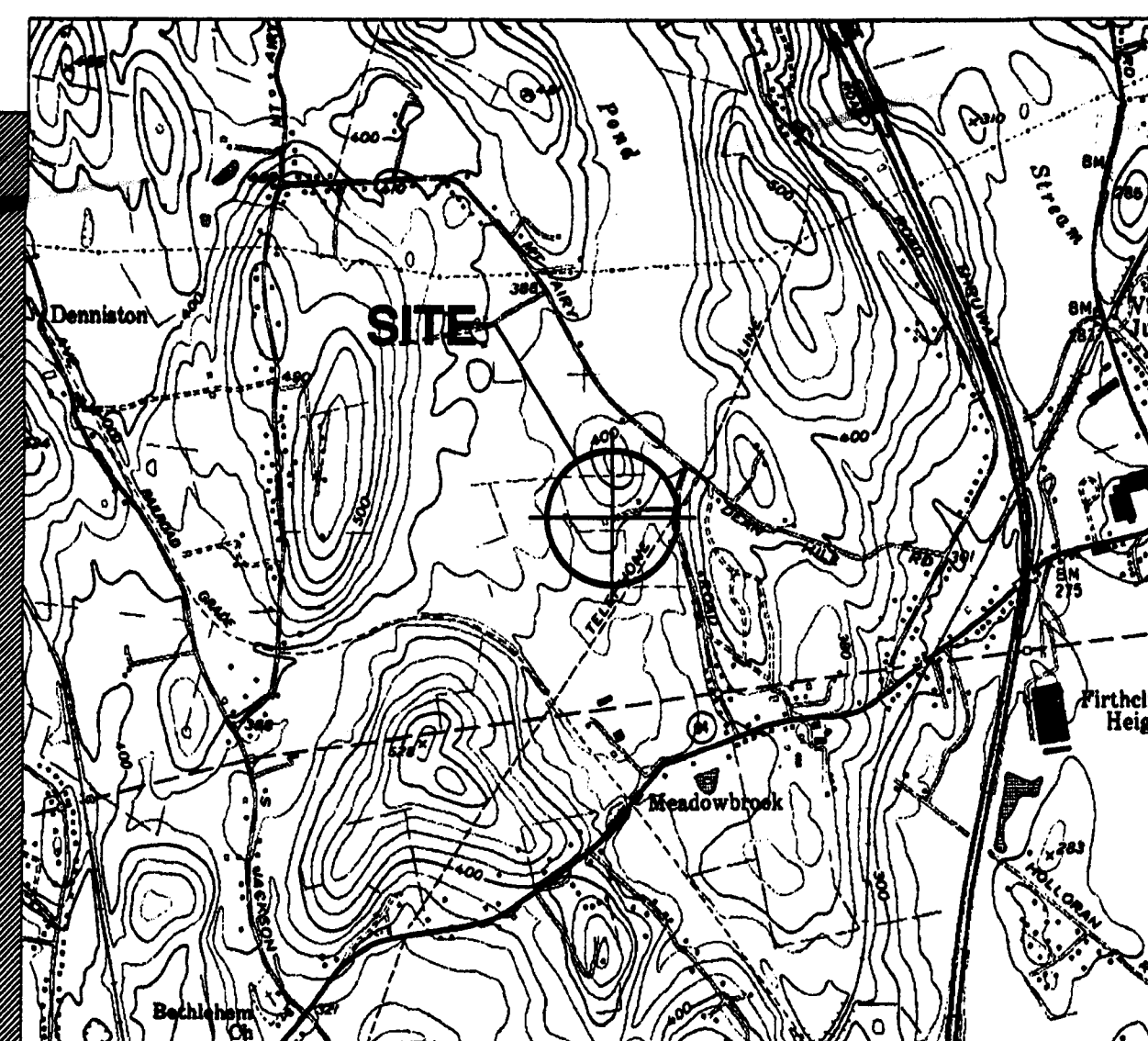


# UPGRADE AND MODIFICATIONS TO MOUNT AIRY SEWAGE PUMPING STATION SEWER DISTRICT #16



VICINITY MAP

SCALE: 1"=2000'

SITE ADDRESS: MOUNT AIRY ROAD  
NEW WINDSOR, NY

OWNER: TOWN OF NEW WINDSOR  
555 UNION AVENUE  
NEW WINDSOR, NY 12553

APPLICANT: LAND MASTER COMMUNITY DEVELOPERS, L.L.C.  
156 ORANGE AVENUE  
WALDEN, NY 12586

## PROJECT SUMMARY

A/E: PETER PAPAY  
(201) 934-2828

PROPERTY CONTACT: ROSS WINGLOVITZ  
(845) 778-3793

## PROJECT CONTACTS

SHEET NUMBER	DESCRIPTION	REVISION DATE
T-1	TITLE SHEET	12/21/05
S-1	PARTIAL SITE PLAN, BUILDING PLAN AND NOTES	12/21/05
S-2	DETAILS AND NOTES	12/21/05
S-3	BUILDING ELEVATIONS	12/21/05
S-4	DETAILS	12/21/05
M-1	MECHANICAL PLANS, DETAILS AND NOTES	12/21/05
E-1	ELECTRICAL PLAN, DETAILS AND NOTES	12/21/05
E-2	ELECTRICAL PLANS	12/21/05

## SHEET INDEX



PAPAY ENGINEERING & CONSTRUCTION, INC.  
100 HILLTOP ROAD, RAMSEY, NJ 07448  
201-934-2828  
NJ CERTIFICATE OF AUTHORIZATION NO. 246427832900

LAND MASTER  
COMMUNITY DEVELOPERS, L.L.C.  
156 ORANGE AVENUE  
WALDEN, NEW YORK 12586  
PHONE: (845) 778-3793  
FAX: (845) 778-4669

## PROJECT NUMBER

1639

## DRAWN BY

J.D.P.

## CHECKED BY

P.E.P.

NO	DATE	ISSUE
0	01/14/04	CONST. REVIEW
1	05/12/04	CONSTRUCTION
2	11/11/04	CONSTRUCTION
3	03/17/05	CONSTRUCTION
4	08/09/05	CONSTRUCTION
5	12/21/05	CONSTRUCTION

## APPROVALS

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

DATE: \_\_\_\_\_

SITE ADDRESS:  
MOUNT AIRY ROAD  
NEW WINDSOR,  
ORANGE COUNTY,  
NEW YORK

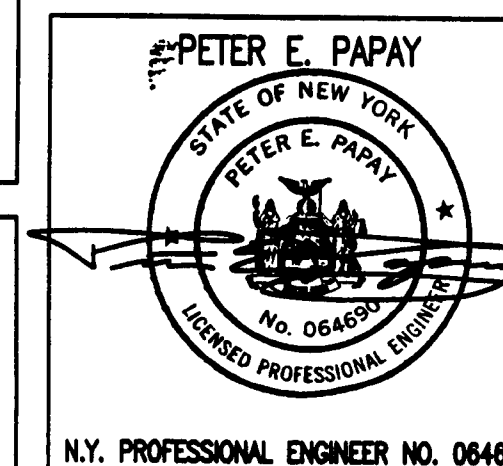
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TITLE SHEET

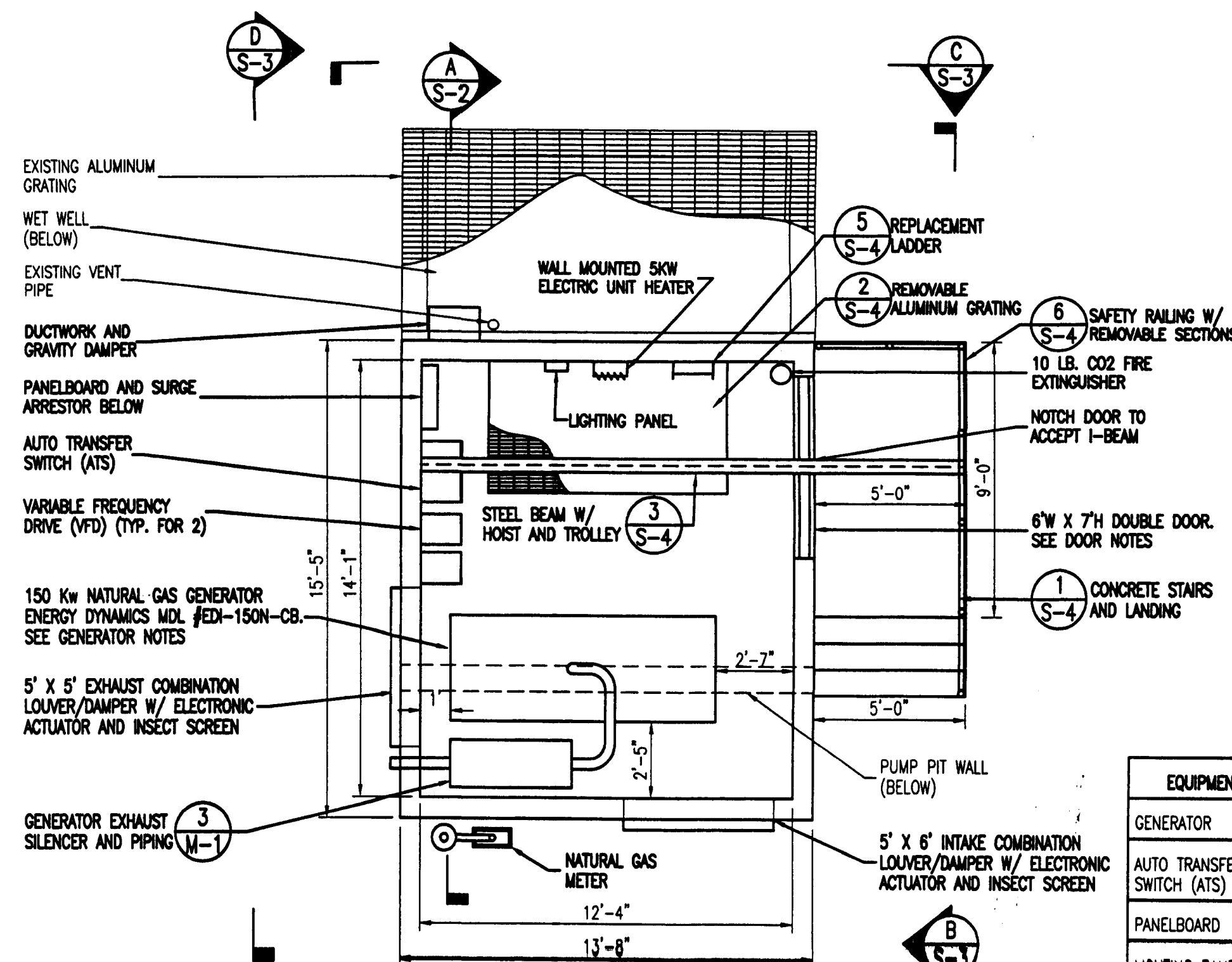
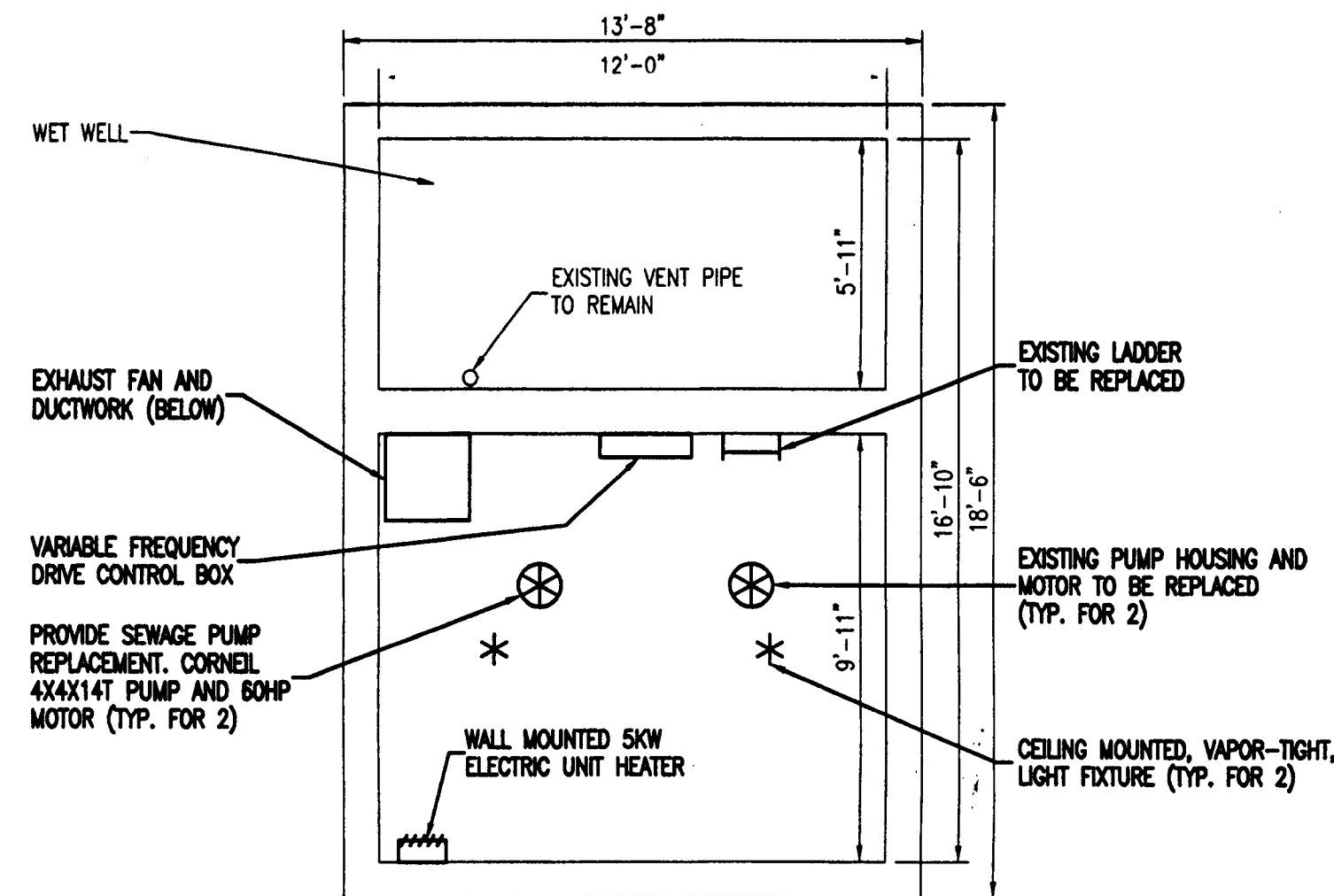
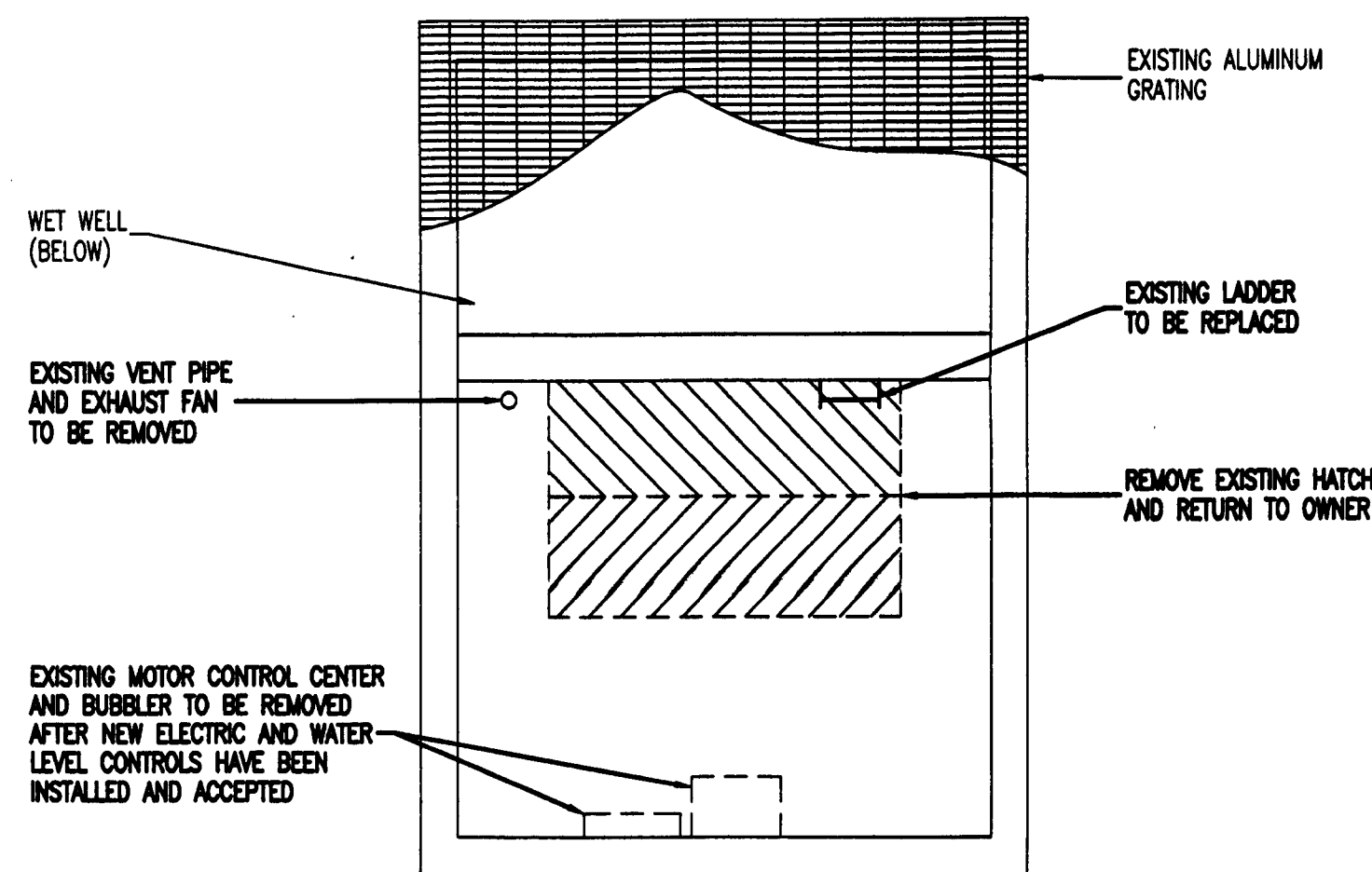
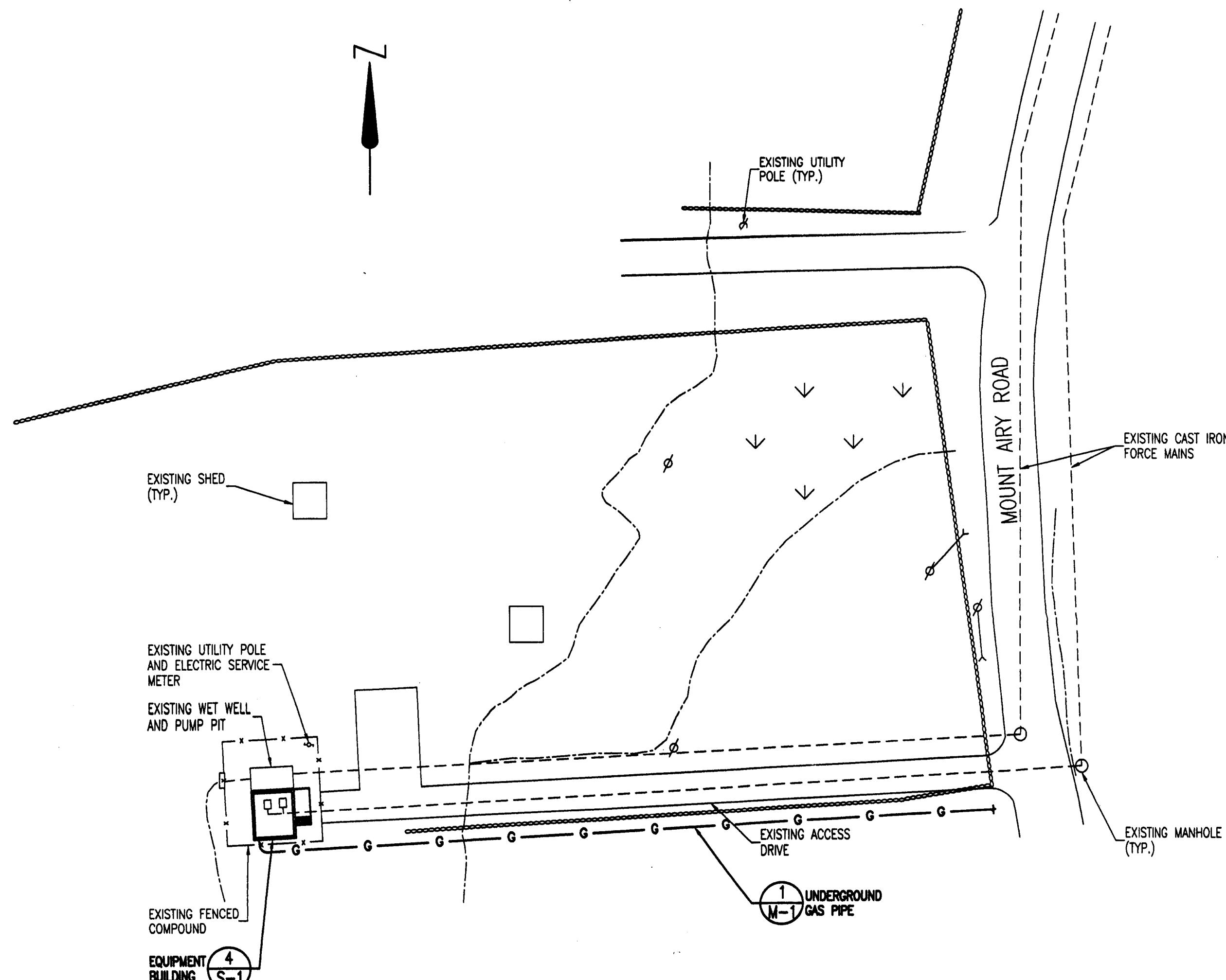
## SHEET NUMBER

T-1

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ADDITION TO THIS DOCUMENT IS  
A VIOLATION OF SECTION 7209  
OF THE NEW YORK STATE  
EDUCATION LAW.



N.Y. PROFESSIONAL ENGINEER NO. 064690



EQUIPMENT	DIMENSIONS
GENERATOR	105" L X 40" W X 55" H
AUTO TRANSFER SWITCH (ATS)	24" W X 16" D X 59" H
PANELBOARD	26" W X 6.5" D X 65" H
LIGHTING PANEL	9" W X 4" D X 12.5" H
VARIABLE FREQUENCY DRIVE (VFD)	12" W X 16" D X 36" H
VFD CONTROL BOX	36" W X 8" D X 36" H

- NOTES:**
- CEILING MOUNTED VAPOR-TIGHT LIGHT FIXTURES NOT SHOWN FOR CLARITY. SEE ELECTRICAL PLANS.
  - VENTILATION SYSTEM LOUVERS NOT SHOWN FOR CLARITY. SEE BUILDING ELEVATIONS.

## GENERAL NOTES

- THIS SET OF PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL IT HAS BEEN DEPICTED AS SUCH IN THE ISSUE BLOCK.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS CONTRACT DOCUMENTS GIVE OTHER SPECIFIC INSTRUCTIONS CONCERNING CERTAIN MATTERS.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, APPURTENANCES, LABOR AND TEMPORARY MEASURES NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE CONTRACT DOCUMENTS.
- ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE AND EXECUTION OF THE WORK. ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE NATIONAL AND STATE JURISDICTIONAL CODES, THE NATIONAL ELECTRIC CODE, AND UTILITY COMPANY SPECIFICATIONS.
- ALL ITEMS REQUIRING INSPECTION SHALL BE INSPECTED AND APPROVED PRIOR TO CONCEALMENT OF SUCH ITEMS.
- CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO PROTECT ALL EXISTING AREAS OF THE PROJECT SITE FROM DAMAGE MADE BY THE HANDLING OF MATERIALS, EQUIPMENT, TOOLS AND NORMAL CONSTRUCTION ACTIVITY FOR THE DURATION OF THE WORK. ALL EFFECTED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF THE WORK.
- KEEP CONTRACT AREA CLEAN AND HAZARD FREE THROUGHOUT THE DURATION OF THE WORK. DISPOSE OF ALL DEBRIS, RUBBISH, EQUIPMENT REMOVED AND NOT SPECIFIED TO REMAIN ON THE PROPERTY OF THE OWNER. LEAVE PREMISES IN A FIRST CLASS CLEAN CONDITION, FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. REPAIR AND PAINT ALL EXISTING SURFACES THAT HAVE BEEN DAMAGED OR OTHERWISE EFFECTED BY THE WORK SUCH THAT THEY BLEND WITH ADJACENT SURFACES.
- DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT SHALL BE CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY ALL DIMENSIONS. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WRITTEN CLARIFICATION FROM THE CONSTRUCTION MANAGER OR ENGINEER, PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL OBTAIN ALL CLARIFICATIONS AND AUTHORIZATIONS IN WRITING BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL CITY, STATE AND O.S.H.A. SAFETY REQUIREMENTS.
- DURING THE COURSE OF THE WORK, THE PROPERTY OWNER(S), HIS EMPLOYEES, SUPPLIERS, CLIENTS, TENANTS AND VISITORS SHALL CONTINUE TO OCCUPY AND USE THE FACILITY AND PREMISES. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE THE WORK ACCORDINGLY.
- SEAL ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS. ALL EXTERIOR PENETRATIONS SHALL BE WEATHERPROOF.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS. SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- DO NOT DEVIATE FROM MANUFACTURERS LISTED WITHIN THE CONTRACT DOCUMENTS, UNLESS UNAVAILABLE. OBTAIN PRIOR APPROVAL FROM CONSTRUCTION MANAGER FOR SUCH DEVIATIONS.
- DELIVER ALL MAINTENANCE AND INSTRUCTION MANUALS AND SPARE PARTS TO THE CONSTRUCTION MANAGER.
- ALL MATERIALS AND WORKMANSHIP PROVIDED UNDER THIS CONTRACT SHALL BE GUARANTEED TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION, OR LONGER IF OFFERED BY EQUIPMENT MANUFACTURERS OR REQUIRED ELSEWHERE WITHIN THE CONTRACT DOCUMENTS. ANY DEFICIENCIES THAT BECOME EVIDENT DURING THE GUARANTEE PERIOD SHALL BE CORRECTED TO THE SATISFACTION OF THE CONSTRUCTION MANAGER AT THE CONTRACTOR'S EXPENSE. ALL EXISTING ROOF OR OTHER BUILDING WARRANTIES SHALL REMAIN IN EFFECT AND INTACT DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL COORDINATE WITH SAID GUARANTEE(S) SUCH THAT THOSE WARRANTIES ARE MAINTAINED.
- LOCATE AND MARK-OUT ALL UNDERGROUND UTILITIES AND STRUCTURES THROUGH THE USE OF A UTILITY LOCATING SERVICE PRIOR TO ANY EXCAVATION WORK. HAND DIG IN AREAS OF EXISTING UTILITIES AND/OR STRUCTURES.

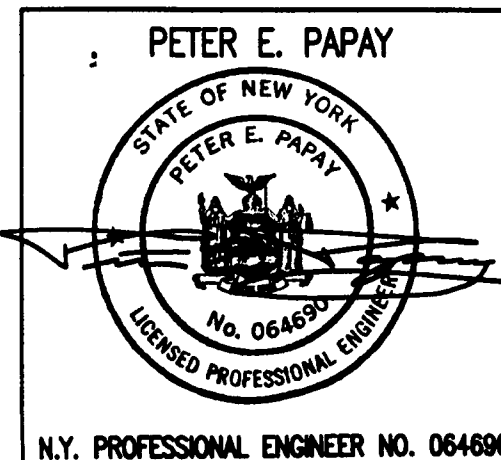
## REMOVAL NOTES

- DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL FIXTURES, RECEPTACLES, SWITCHES AND DEVICES TO THE EXTENT REQUIRED TO FACILITATE NEW WORK. REMOVE ALL ASSOCIATED WIRING.
- MAINTAIN CIRCULARITY OF DEVICES AND EQUIPMENT OUTSIDE OF NEW EQUIPMENT BUILDING. EXTEND EXISTING BOXES THAT ARE UNABLE TO BE ABANDONED. PROVIDE NEW COVER PLATES FLUSH WITH NEW WALL FINISH.
- VERIFY THAT ALL ITEMS CAN BE SAFELY REMOVED PRIOR TO EXECUTION OF REMOVAL WORK.
- DISCONNECT AND REMOVE ALL EXISTING PLUMBING AND HEATING FIXTURES, ELEMENTS AND ASSOCIATED PIPING TO THE EXTENT REQUIRED TO FACILITATE NEW WORK. PROVIDE NEW VALVES, CAPS AND PIPING REQUIRED TO MAINTAIN PLUMBING AND HEATING SERVICES OUTSIDE OF NEW EQUIPMENT BUILDING.

## GENERATOR NOTES

- PROVIDE 150 KW GENERATOR SET, ENERGY DYNAMICS MOL #ED-150N-CB
- GENERATOR SET TO BE PROVIDED WITH THE FOLLOWING ACCESSORIES:
  - EMERGENCY STOP
  - AUTO-START
  - CRITICAL SILENCER
  - MAIN LINE CIRCUIT BREAKER
  - 12V ELECTRICAL SYSTEM
  - BATTERIES
  - AUTOMATIC BATTERY CHARGER
  - VIBRATION ISOLATORS
  - BYPASS OIL FILTER
  - STANDARD ALARM PACKAGE

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PAPAY ENGINEERING & CONSTRUCTION, INC.  
100 HILLTOP ROAD, NAUSETT, NJ 07448  
801-834-8800  
NJ CERTIFICATE OF AUTHORIZATION NO. 0004702800

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WALDEN, NEW YORK 12586  
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FAX: (845) 778-4669

## PROJECT NUMBER

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## DRAWN BY

S.T.G.

## CHECKED BY

P.E.P.

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NEW YORK

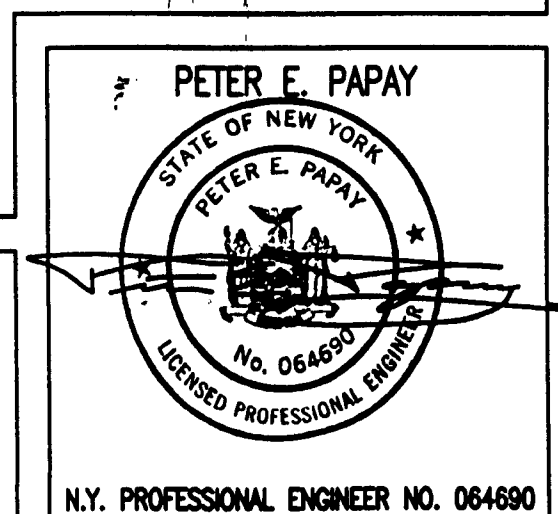
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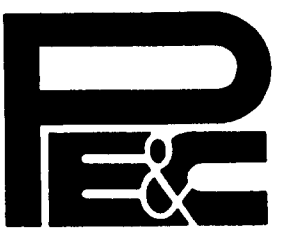
PARTIAL SITE PLAN,  
BUILDING PLAN AND  
NOTES

## SHEET NUMBER

S-1







PAPAY ENGINEERING & CONSTRUCTION, INC.  
100 HILLTOP ROAD, RAMSEY, NJ 07448  
201-834-2828  
NJ CERTIFICATE OF AUTHORIZATION NO. 240A27832800

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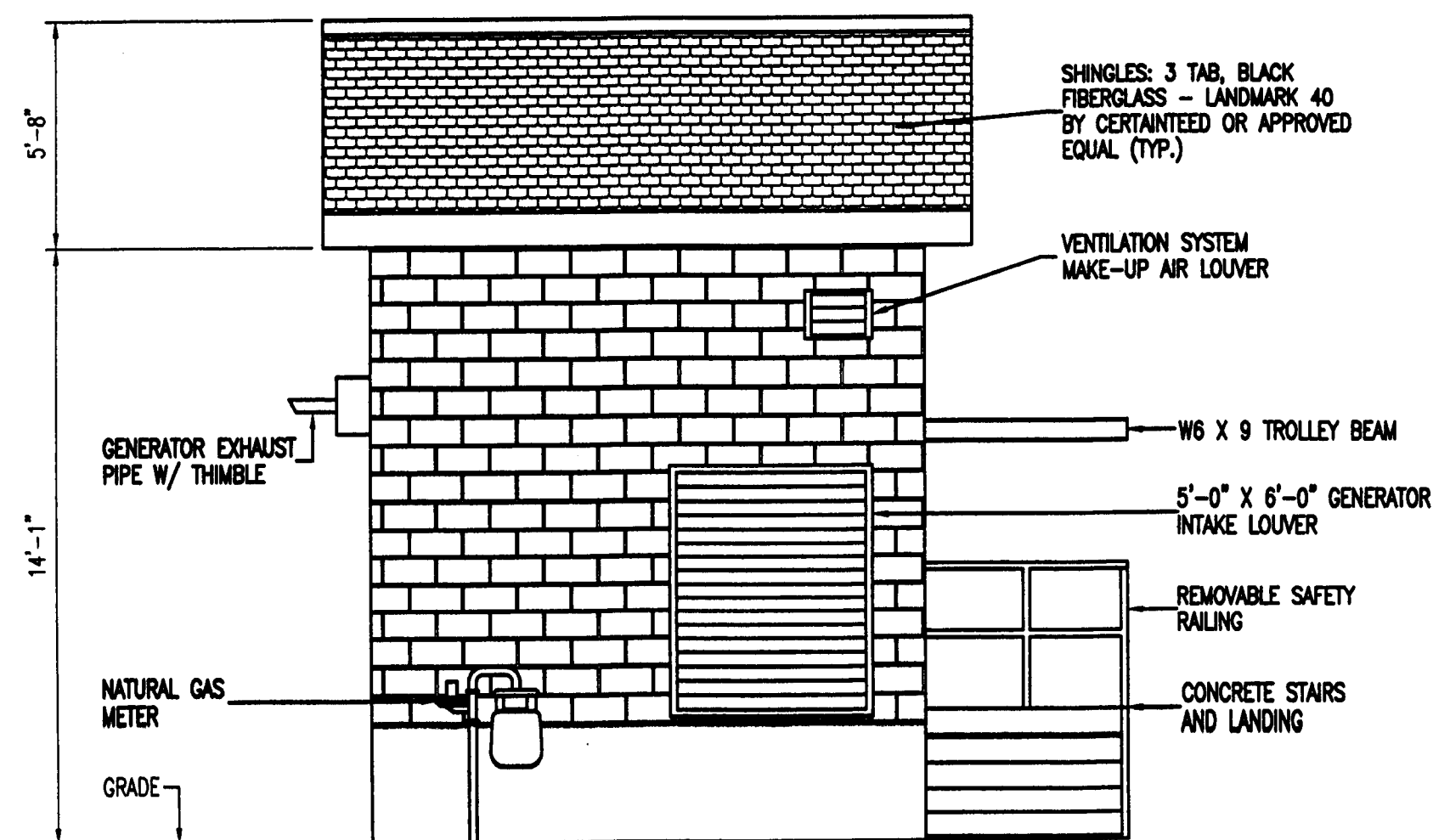
SITE ADDRESS:  
MOUNT AIRY ROAD  
NEW WINDSOR,  
ORANGE COUNTY,  
NEW YORK

SHEET TITLE

BUILDING ELEVATIONS

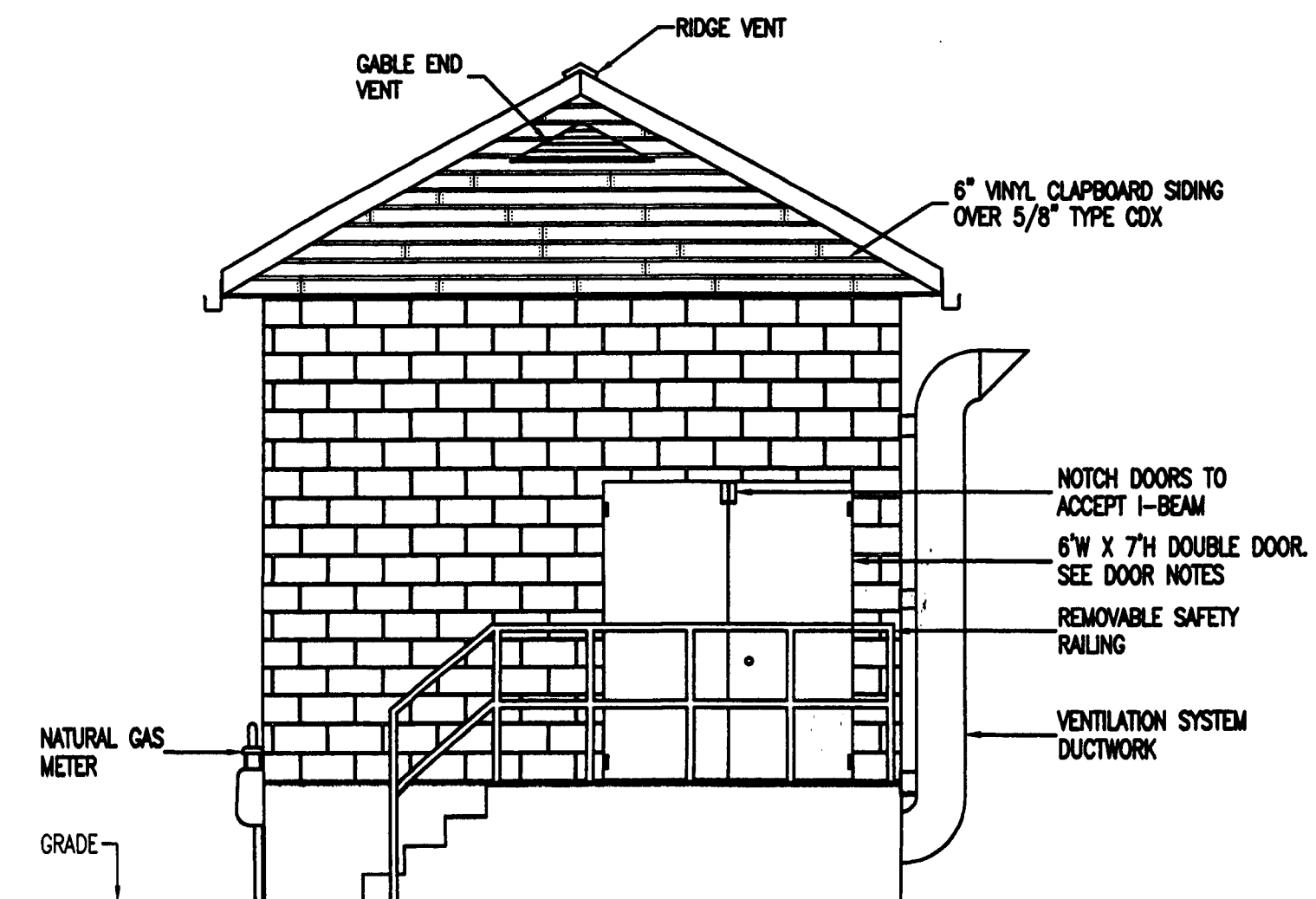
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S-3



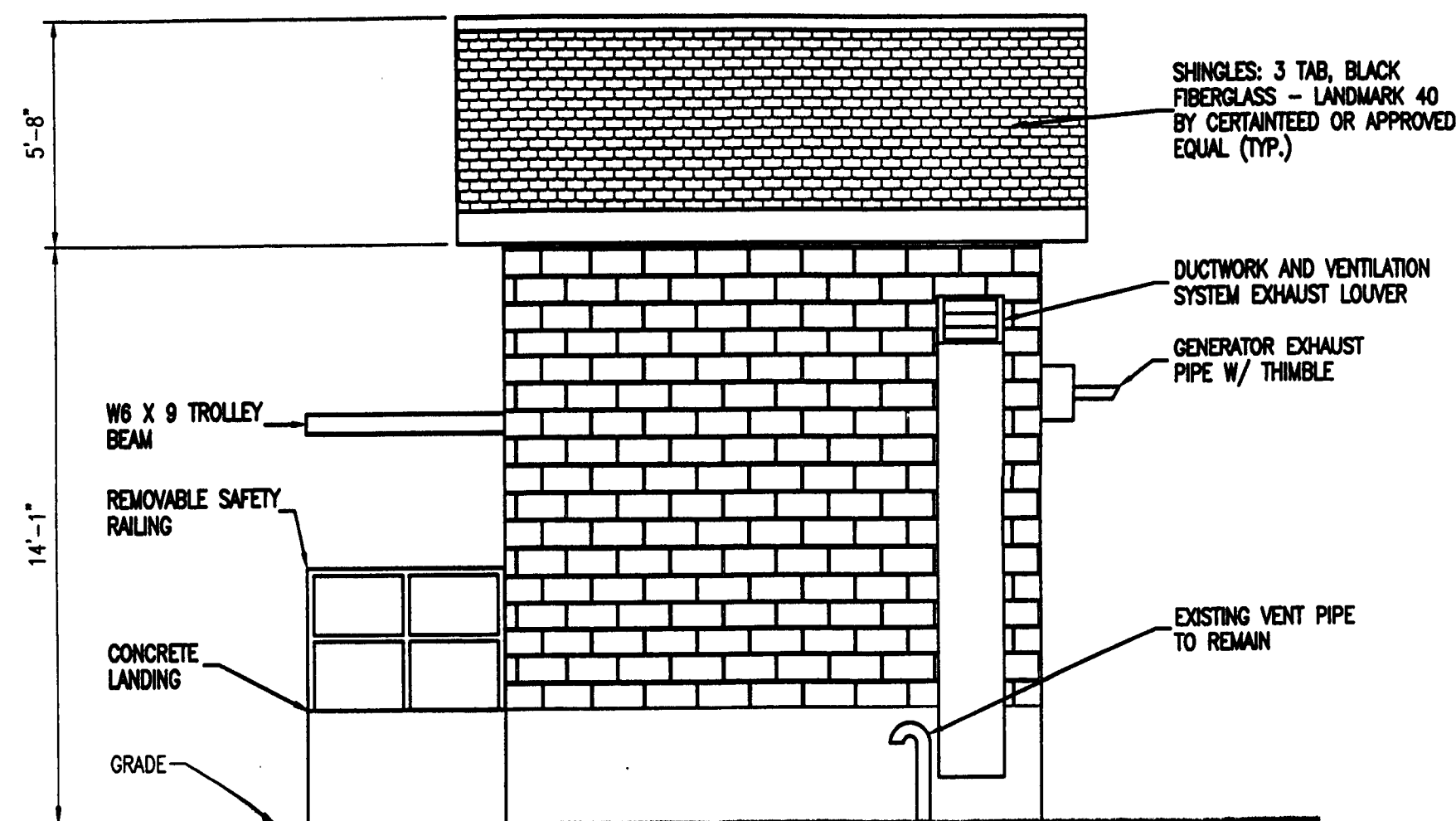
A ELEVATION  
S-3 SCALE: 1/4"=1'-0"

NOTES:  
1. ALL MASONRY OPENINGS REQUIRE AN 8" LINTEL  
UNLESS OTHERWISE NOTED.



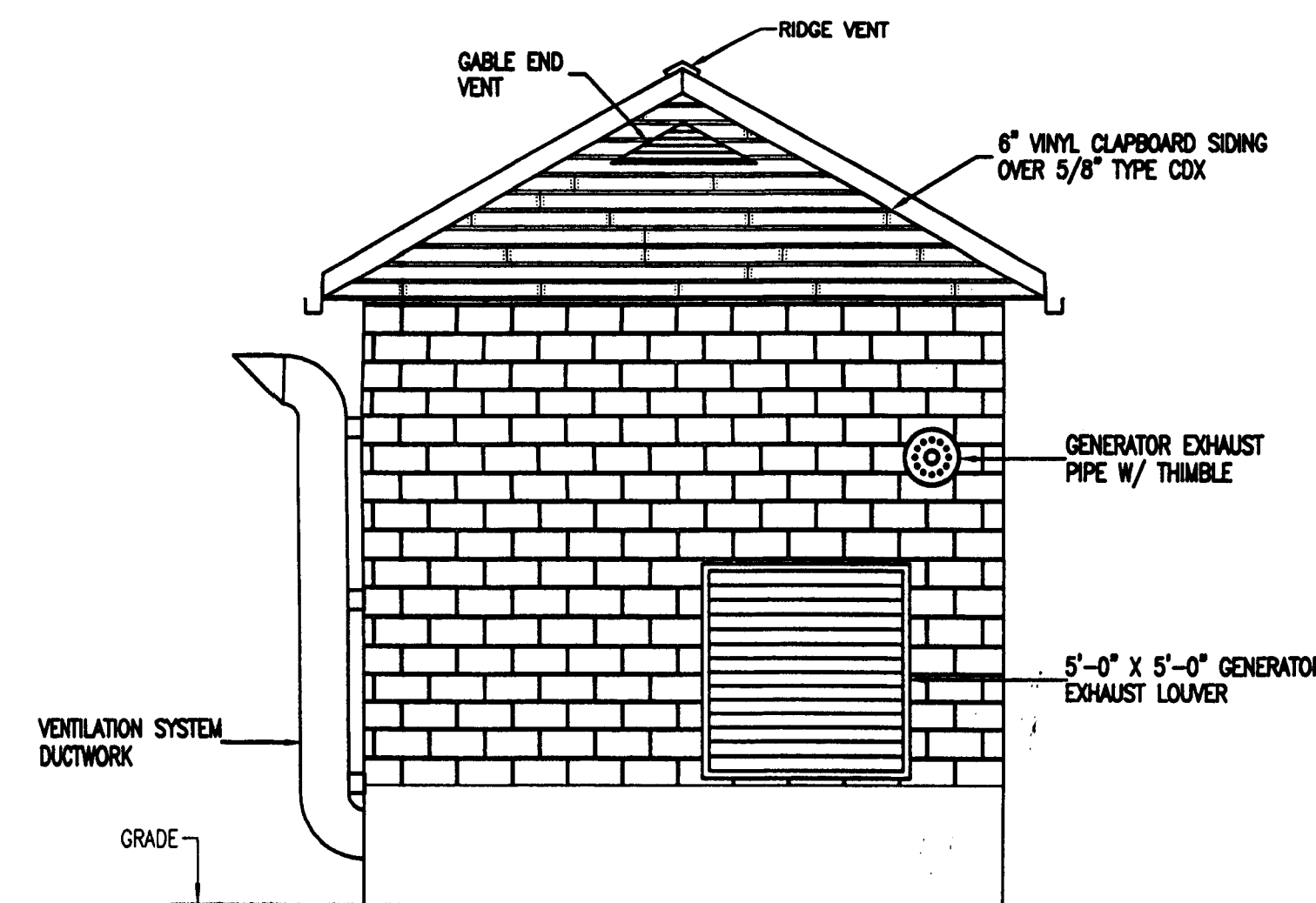
B ELEVATION  
S-3 SCALE: 1/4"=1'-0"

NOTES:  
1. ALL MASONRY OPENINGS REQUIRE AN 8" LINTEL  
UNLESS OTHERWISE NOTED.



C ELEVATION  
S-3 SCALE: 1/4"=1'-0"

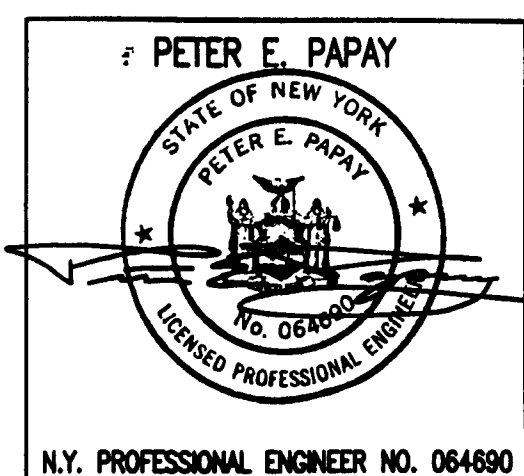
NOTES:  
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UNLESS OTHERWISE NOTED.



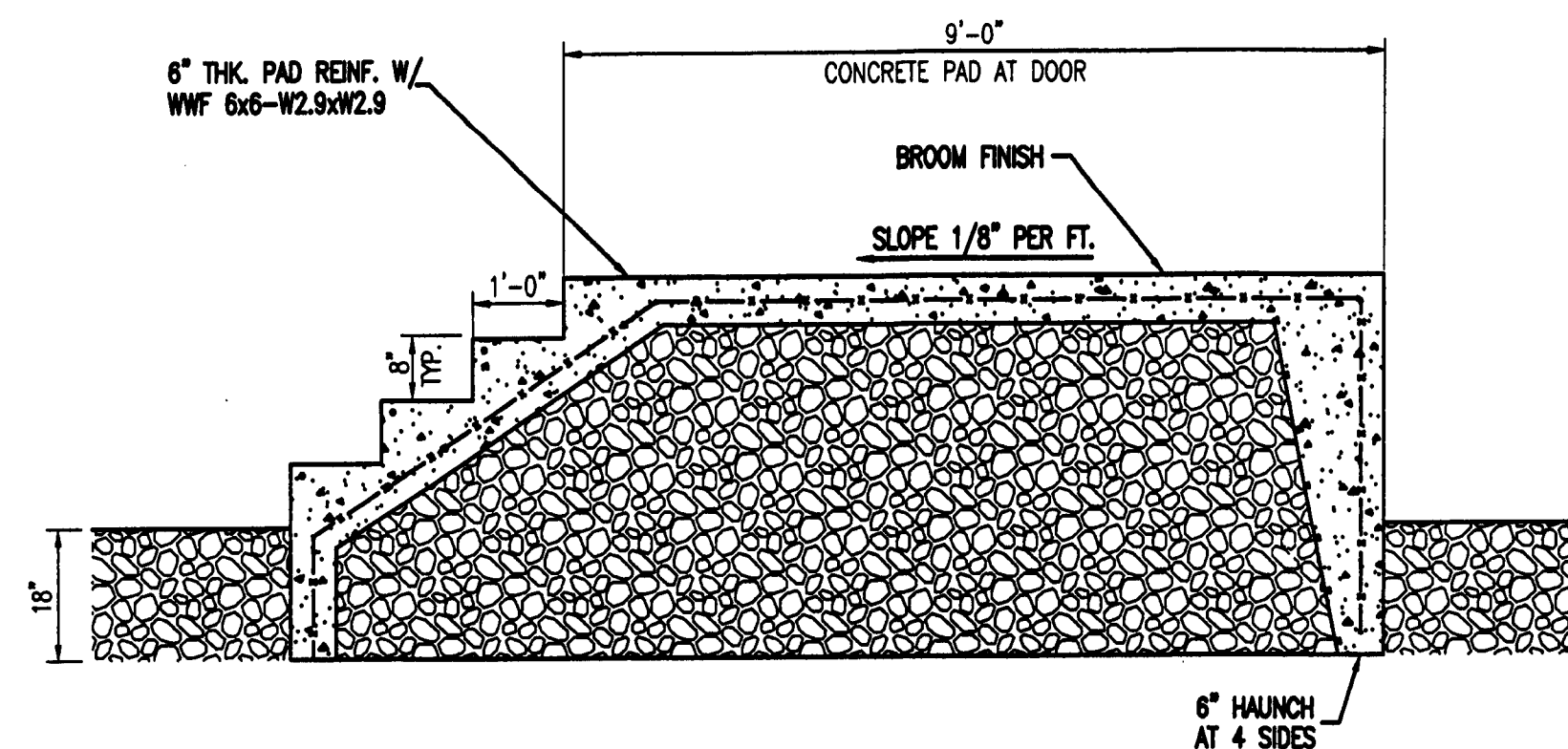
D ELEVATION  
S-3 SCALE: 1/4"=1'-0"

NOTES:  
1. ALL MASONRY OPENINGS REQUIRE AN 8" LINTEL  
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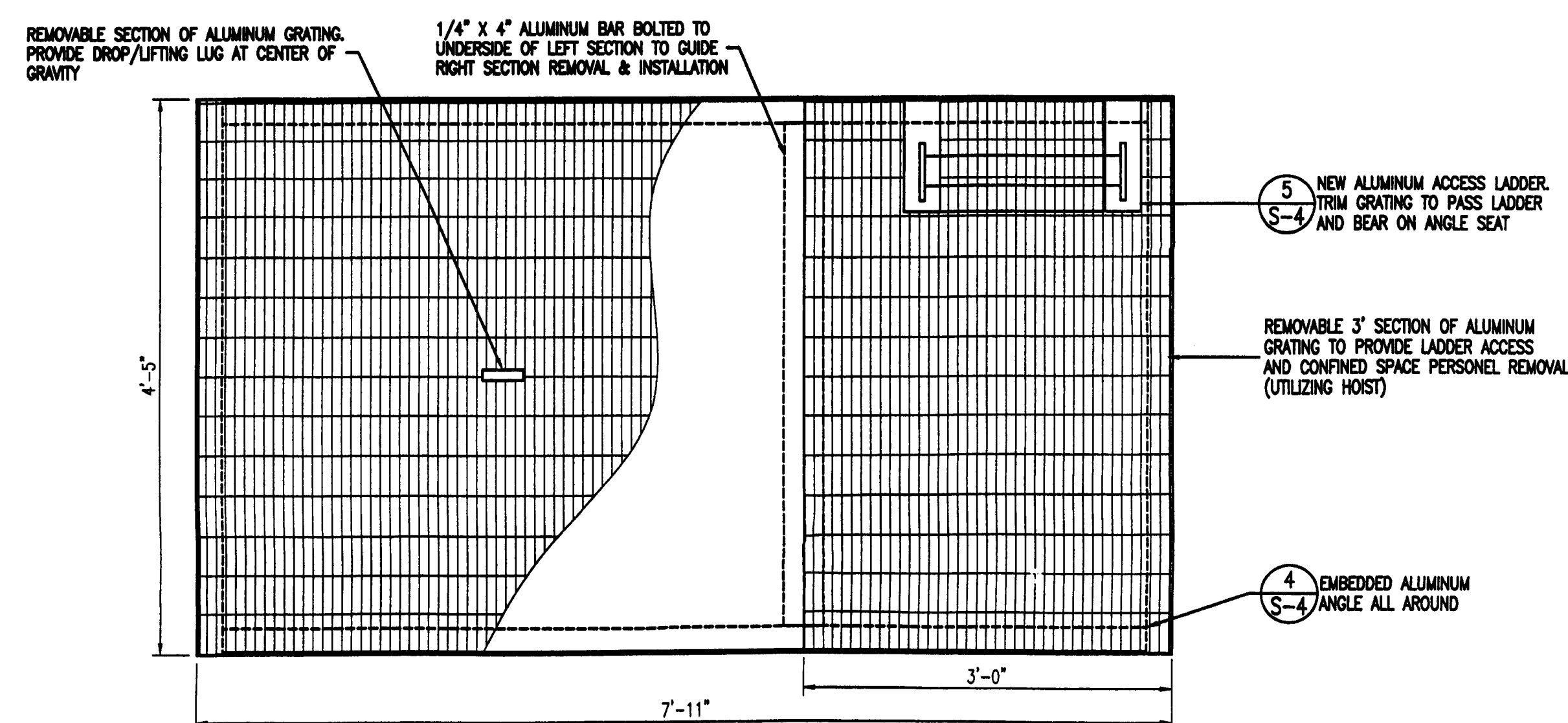
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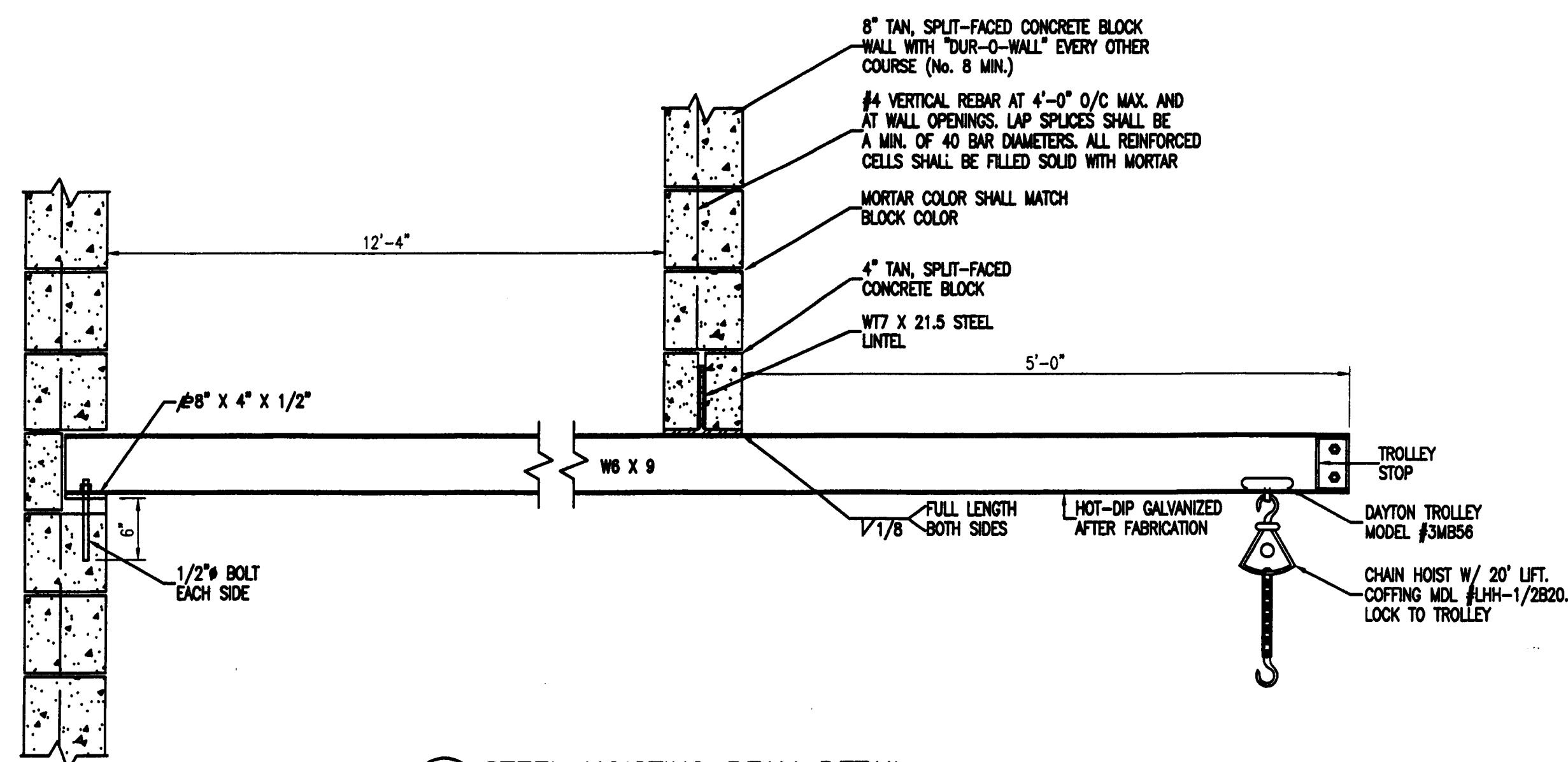


1 CONCRETE STOOP & STAIR DETAIL  
SCALE: 1/2"=1'-0"



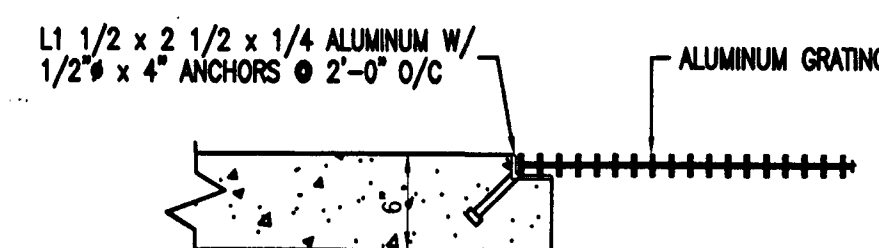
2 ALUMINUM GRATING DETAIL  
SCALE: 1"=1'-0"

NOTES:  
1. GRATING SHALL BE SERIES GAL125 (1 1/4" X 3/16" @ 1 3/16" O/C)

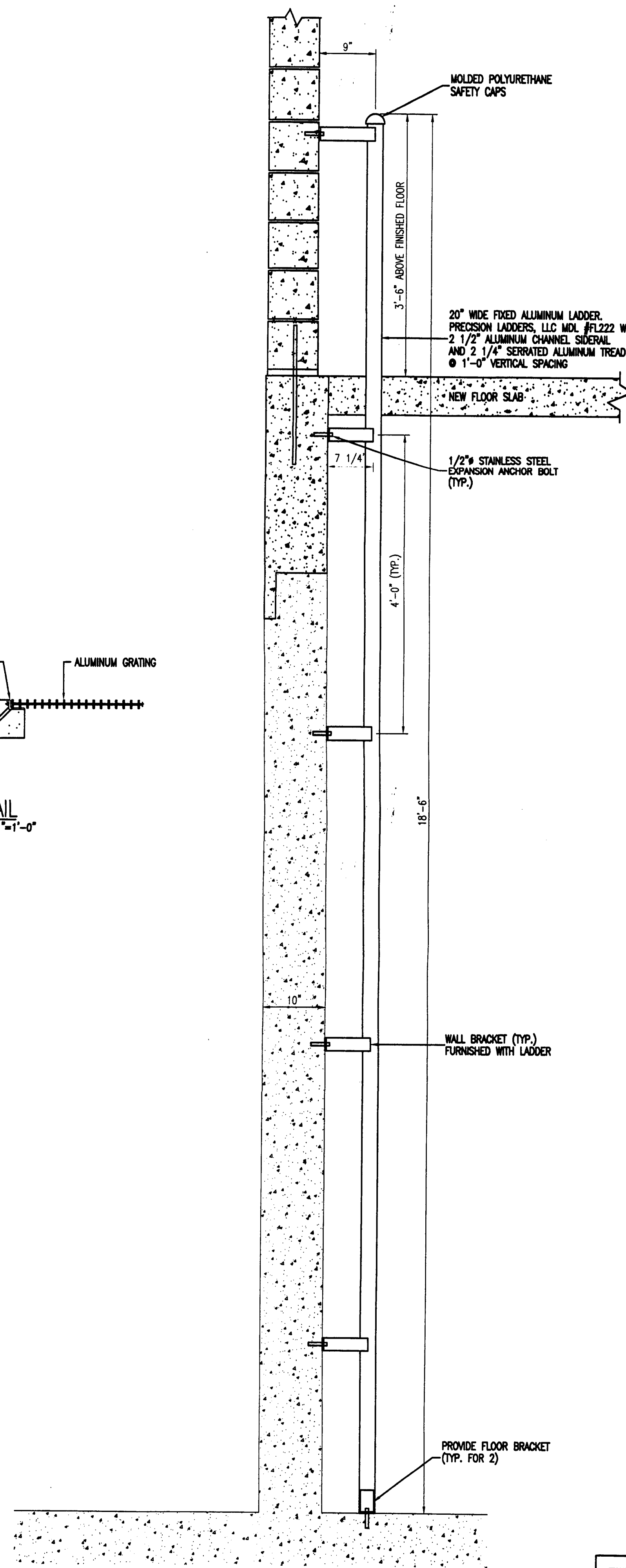


3 STEEL HOISTING BEAM DETAIL  
SCALE: 1"=1'-0"

NOTES:  
1. LINTEL TO SPAN MASONRY OPENING PLUS 6" EACH SIDE.  
2. PROVIDE 1/2 TON, HEAVY-DUTY TROLLEY AND 1/2 TON CHAIN HOIST. CM MODEL #3222-GRANGER STOCK #42463 AND COFFING MODEL #LHH-1/2B20-GRANGER STOCK #3KR21.



4 DETAIL  
SCALE: 1"=1'-0"



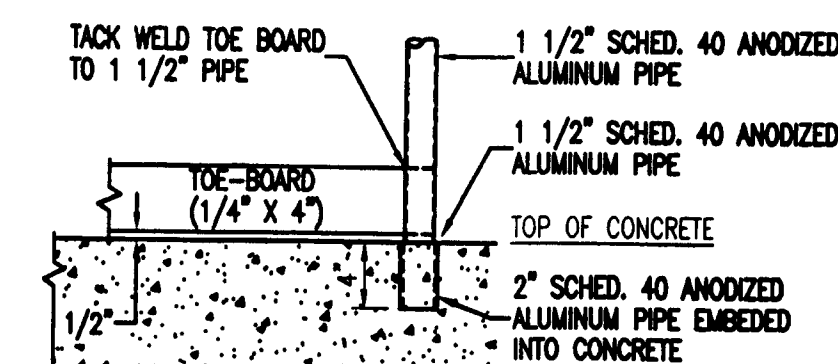
5 LADDER DETAIL  
SCALE: 1"=1'-0"

## CONCRETE NOTES

- CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-85) AND COMMENTARY ACI 318R-85.
- CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT CONCRETE AND SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. SLUMP SHALL BE 4 INCHES (±1 INCH). AIR ENTRAINMENT SHALL BE 8%.
- CONCRETE REINFORCING BARS SHALL BE GRADE 60 DEFORMED BARS AND SHALL CONFORM TO ASTM SPECIFICATION A 615 WITH A MINIMUM YIELD STRENGTH  $F_y=60$  ksi. WELDED WIRE FABRIC REINFORCEMENT SHALL CONFORM TO ASTM A 62 AND SHALL HAVE A MINIMUM  $F_y=70$  ksi.
- UNLESS OTHERWISE NOTED, MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:  
A) 3" FOR FOUNDATION BOTTOM BARS AND VERTICAL BARS.
- MINIMUM LAP SPLICES SHALL BE 40 BAR DIAMETERS.

## MASONRY NOTES

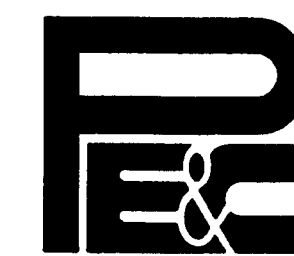
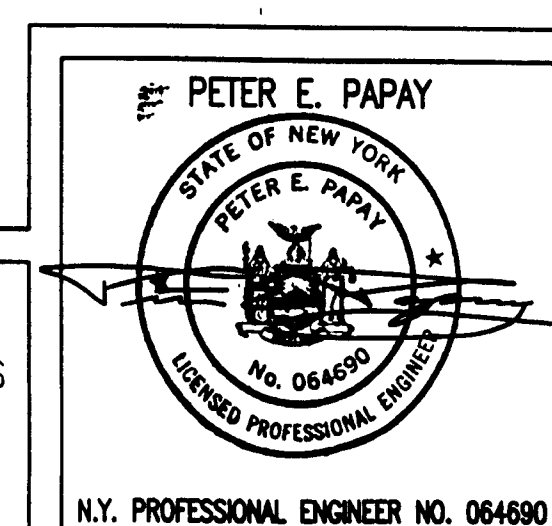
- DESIGN AND CONSTRUCTION OF ALL MASONRY WORK SHALL CONFORM TO THE LATEST EDITION OF THE UNIFORM BUILDING CODE SPECIFICATIONS FOR MASONRY, AND THE LATEST ACI-ASCE STANDARDS FOR "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530) AND "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1).
- UNLESS NOTED OTHERWISE, THE ULTIMATE COMPRESSIVE STRENGTH OF MASONRY SHALL BE 1500 PSI. HOLLOW MASONRY UNITS SHALL CONFORM TO ASTM C90, ASTM C145, OR ASTM C55, AS APPLICABLE.
- ALL REINFORCED BLOCK CELLS SHALL BE FILLED SOLID WITH MORTAR.
- MASONRY CONSTRUCTION FOR WALLS, COLUMNS AND PLASTERS SHALL BE PERFORMED IN RUNNING BOND.
- VERTICAL WALL REINFORCEMENT SHALL BE GRADE 60 STEEL CONFORMING TO ASTM A615 WITH A MINIMUM YIELD STRENGTH  $F_y=60$  KSI.
- HORIZONTAL JOINT REINFORCEMENT IN WALLS SHALL CONSIST OF NO. 8 EXTRA HEAVY DUTY EYE OR DUTY-WALL (AS APPLICABLE) TRUSS TYPE. HORIZONTAL JOINT REINFORCEMENT SHALL CONFORM TO ASTM A62.
- MORTAR SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.



6 SAFETY RAIL DETAILS  
SCALE: 1"=1'-0"

NOTES:  
1. CONSTRUCT REMOVABLE SAFETY RAILING AND TOE-BOARD OF ANODIZED ALUMINUM.

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PAPAY ENGINEERING & CONSTRUCTION, INC.  
100 HILLTOP ROAD, RAMSEY, NJ 07446  
201-254-2828  
NJ CERTIFICATE OF AUTHORIZATION NO. 240427932800

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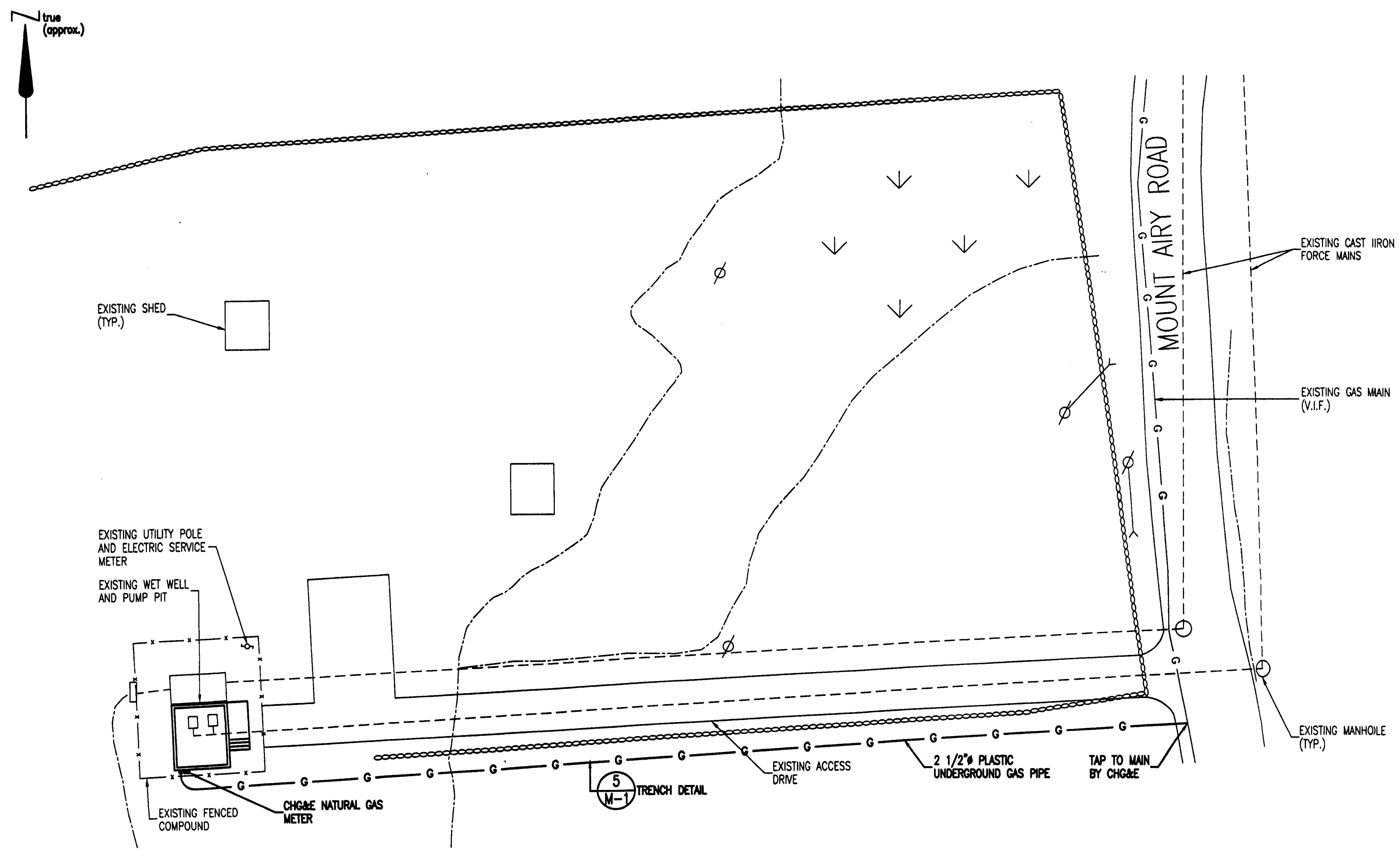
SITE ADDRESS:  
MOUNT AIRY ROAD  
NEW WINDSOR,  
ORANGE COUNTY,  
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## SHEET TITLE

DETAILS

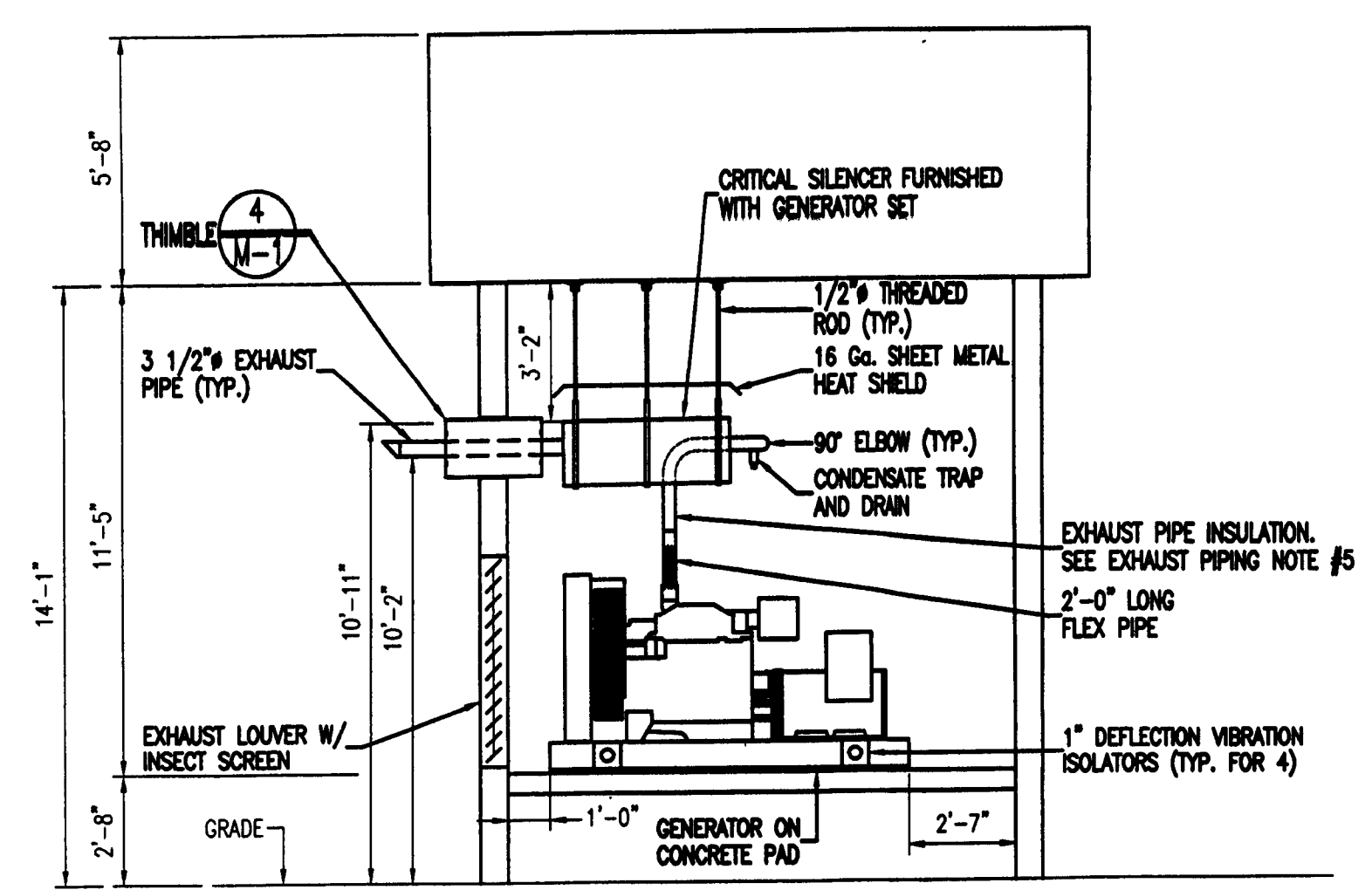
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S-4

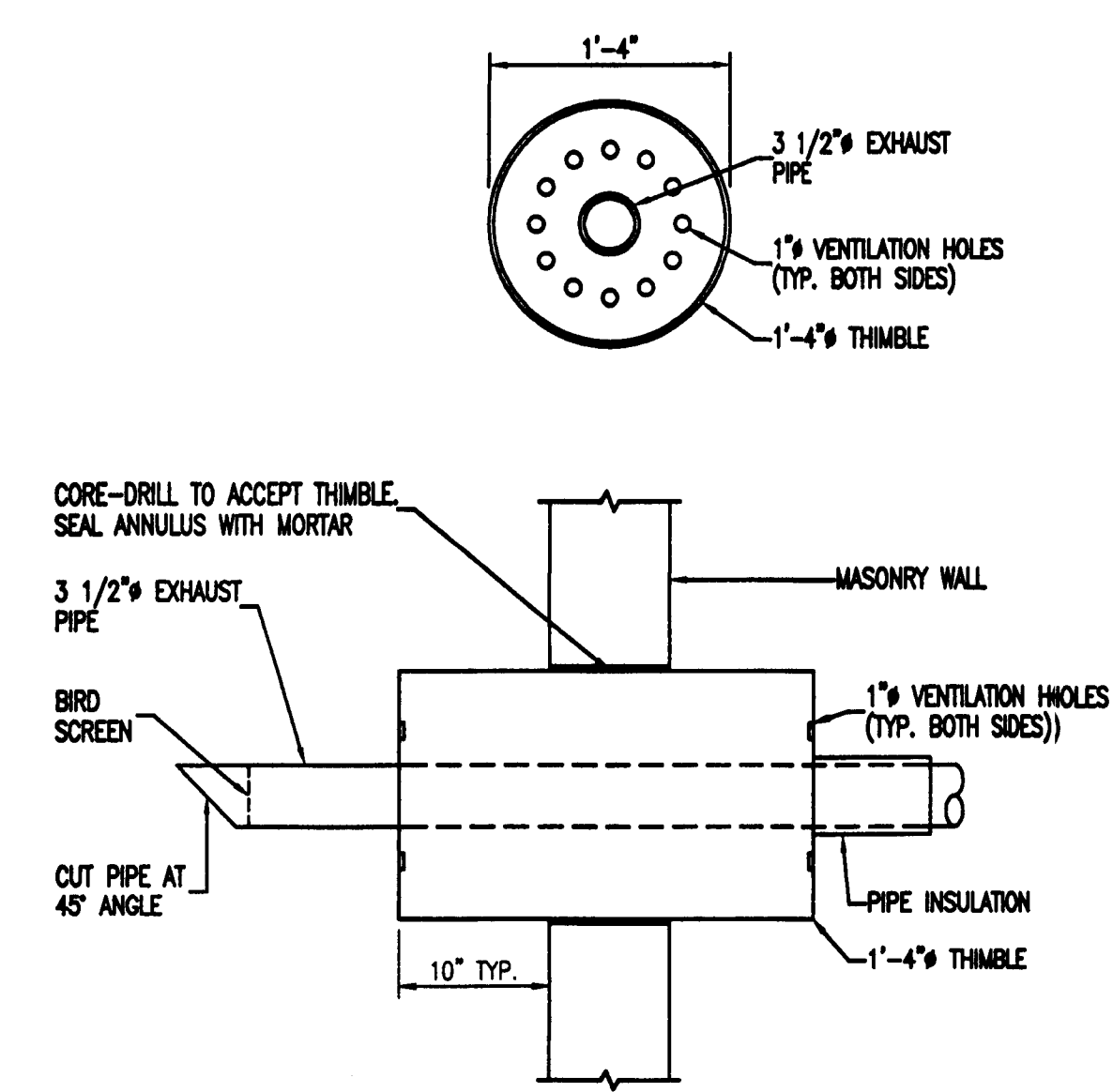


**1 GAS PIPING PLAN**  
SCALE: 1"=20'

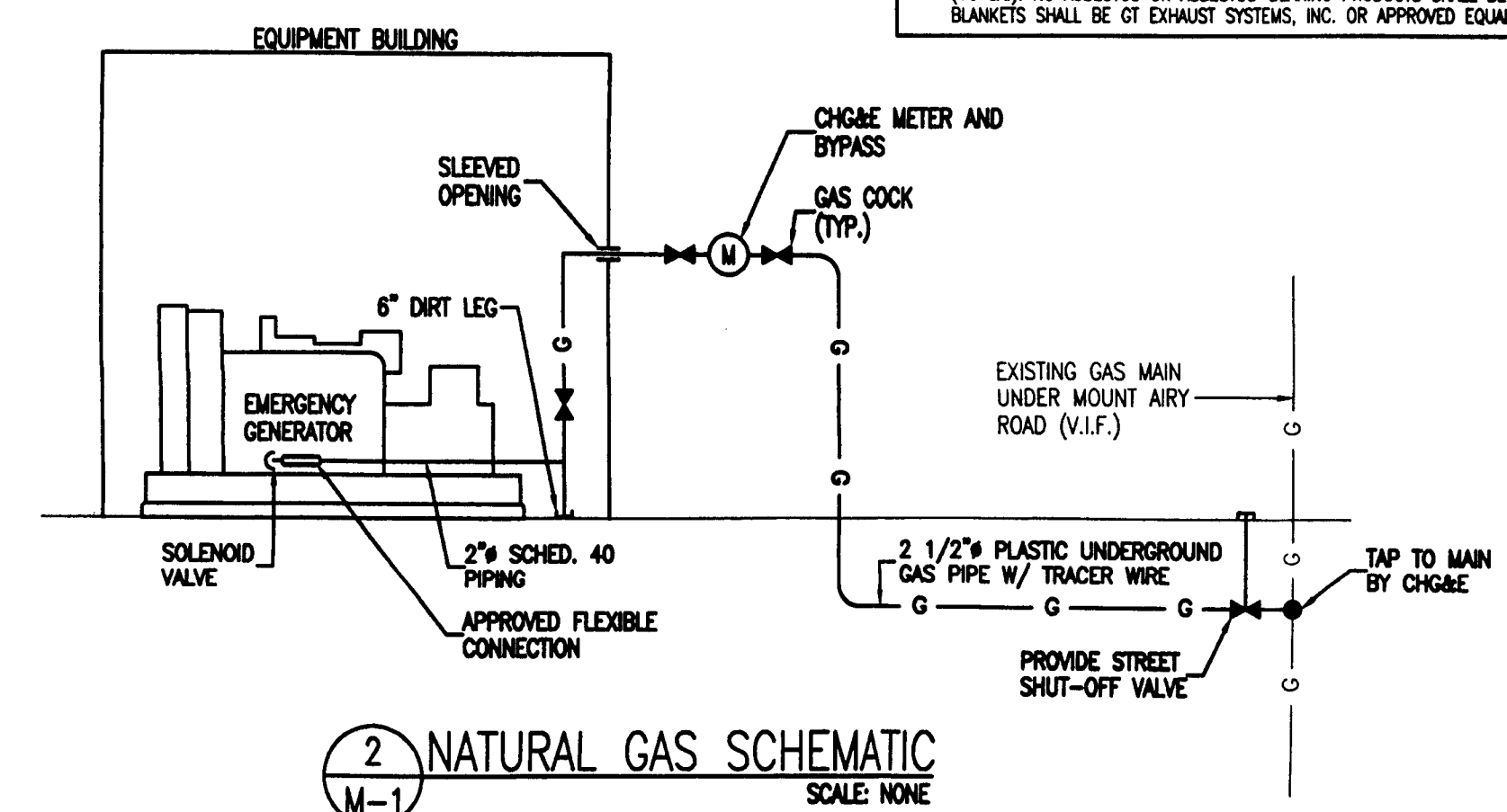
**LEGEND**  
— LIGHT LINES DENOTE EXISTING CONDITIONS  
— HEAVY LINES DENOTE PROPOSED CONDITIONS  
— UNDERGROUND GAS PIPING



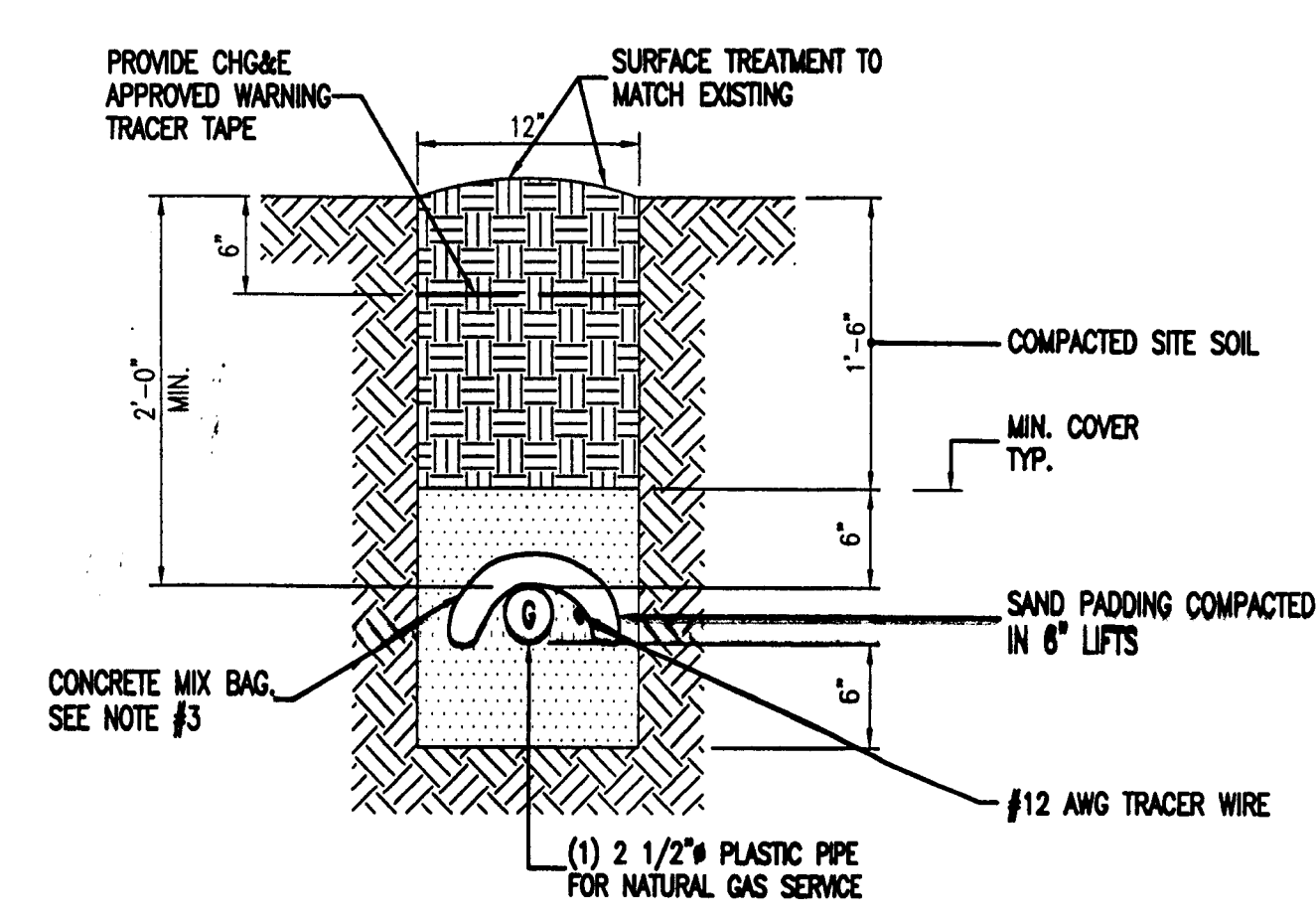
**3 EXHAUST PIPING**  
SCALE: 1/4"=1'-0"



**4 THIMBLE DETAIL**  
SCALE: 1"=1'-0"



**2 NATURAL GAS SCHEMATIC**  
SCALE: NONE



**5 UNDERGROUND UTILITY TRENCH DETAIL**  
SCALE: 1"=1'-0"

**NOTE:**  
1. BACKFILL WITH SITE SOIL WHICH IS FREE FROM 6" IN DIAMETER OR GREATER ROCKS. COMPACT BACKFILL IN 6" LIFTS.  
2. THE BACKFILLED TRENCH SHALL BE CROWNED SLIGHTLY TO ALLOW FOR FUTURE SETTLEMENT. THE CROWN SHALL BE THOROUGHLY COMPACTED.  
3. PLACE ONE, UNOPENED, 75# BAG OF CONCRETE MIX DIRECTLY OVER THE PIPE AT 40' INTERVALS.

**PETER F. PAPAY**  
STATE OF NEW YORK  
No. 064690  
LICENSED PROFESSIONAL ENGINEER  
N.Y. PROFESSIONAL ENGINEER NO. 064690

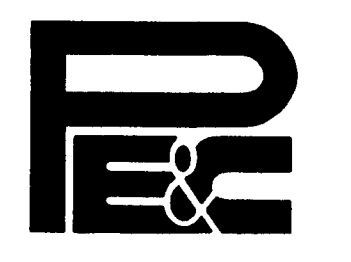
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**GAS PIPING NOTES**

- CONTRACTOR SHALL PROVIDE ALL CUTTING AND EXCAVATION REQUIRED TO INSTALL MATERIALS AND EQUIPMENT. PATCHING WILL BE PROVIDED BY THE CONTRACTOR.
- BELOW GROUND GAS PIPING SHALL BE HIGH OR MEDIUM DENSITY POLYETHYLENE CONFORMING TO ASTM D2513.
- ABOVE GROUND GAS PIPING SHALL BE SCHEDULE 40, BLACK STEEL PIPE WITH THREADED FITTINGS. PIPE SHALL CONFORM TO ASTM-A53, NO UNIONS, BUSHINGS, RIGHT AND LEFT COUPLINGS, SWING JOINTS AND GLAND TYPE JOINTS SHALL BE USED IN CONCEALED LOCATIONS.
- GAS PIPING WORK SHALL COMPLY WITH SECTION 406 OF THE FUEL GAS CODE OF NEW YORK STATE AND ANY SPECIAL REQUIREMENTS OF THE TOWN OF NEW WINDSOR.
- FITTINGS SHALL BE SCHEDULE 40 MALLEABLE CAST IRON SCREW TYPE. SEAL FITTINGS WITH PIPE JOINT COMPOUND WHICH IS RESISTANT TO LIQUEFIED PETROLEUM GAS. APPLY COMPOUND TO MALE THREADS ONLY.
- SUPPORT GAS PIPING IN ACCORDANCE WITH ANSI/ISS SP-58 & 69, AND NYS BUILDING CODE.
- PRESSURE TEST NEW GAS RISERS PRIOR TO CONNECTION AND CONCEALMENT IN ACCORDANCE WITH SECTION 406 OF THE FUEL GAS CODE OF NEW YORK STATE. CONCEALMENT AND CONNECTIONS SHALL OCCUR ONLY AFTER PASSING THE TEST.
- REDUCTIONS IN PIPE SIZE SHALL BE ACCOMPLISHED WITH REDUCERS. BUSHINGS ARE NOT ACCEPTABLE.
- PURGE SYSTEM IN ACCORDANCE WITH NFPA-54.
- PROVIDE GAS COCKS, DIRT LEGS AND UNIONS AT CONNECTIONS TO ALL APPLIANCES. PROVIDE METER VALVE UPSTREAM OF METER. PROVIDE EXTERIOR SHUT-OFF VALVE.
- APPLY FOR AND OBTAIN NEW GAS SERVICE FROM CHGA. COORDINATE FINAL METER LOCATION WITH CHGA. PROVIDE ALL EQUIPMENT & MATERIALS IN ACCORDANCE WITH CHGA STANDARDS.

**EXHAUST PIPING NOTES**

- TO REDUCE CONDENSATE BUILD-UP, PITCH MUFFLER & EXHAUST PIPING 1/8" PER FOOT.
- EXHAUST PIPING SHALL CONFORM TO THE LATEST EDITION OF NFPA 37.
- PROVIDE SUITABLE SUPPORT FROM JOISTS ABOVE. SYSTEM WEIGHT MAY NOT BE IMPOSED ON TURBO-CHARGER OUTLET.
- EXHAUST PIPING SHALL BE SCHEDULE 40, BLACK STEEL PIPE WITH THREADED FITTINGS.
- COVER THE INTERIOR EXHAUST PIPING, SILENCER, EXHAUST MANIFOLD(S), AND TURBO(S) WITH INSULATION OF A NON-COMBUSTIBLE TYPE INSULATION BLANKET MATERIAL. BLANKETS SHALL BE TOTALLY ENCAPSULATED IN 304 STAINLESS STEEL MESH. OUTER LINER SHALL CONSIST OF A SILICONE COATED FIBERGLASS CLOTH, HOLD TOGETHER SEAMS WITH 304 STAINLESS STEEL "HOG RING" STAPLES. TIE DOWN ANCHORS, HOOKS, AND WASHERS SHALL BE TYPE 304 STAINLESS STEEL. LACING WIRE SHALL BE TYPE 304 STAINLESS STEEL (1/8" DIA.) NO ASBESTOS OR ASBESTOS-BEARING PRODUCTS SHALL BE USED. THE BLANKETS SHALL BE OF EXHAUST SYSTEMS, INC. OR APPROVED EQUAL.



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**APPROVALS**

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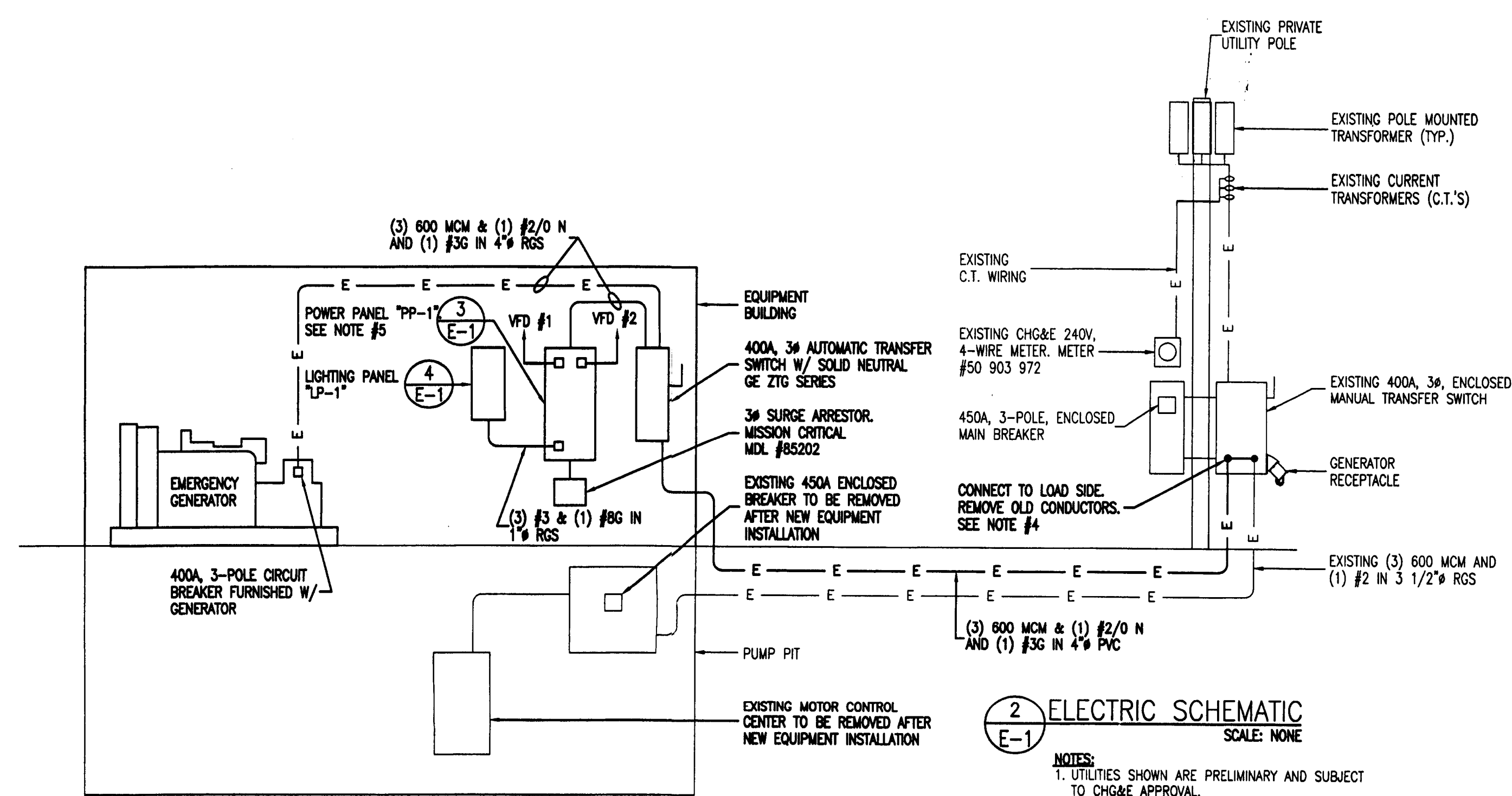
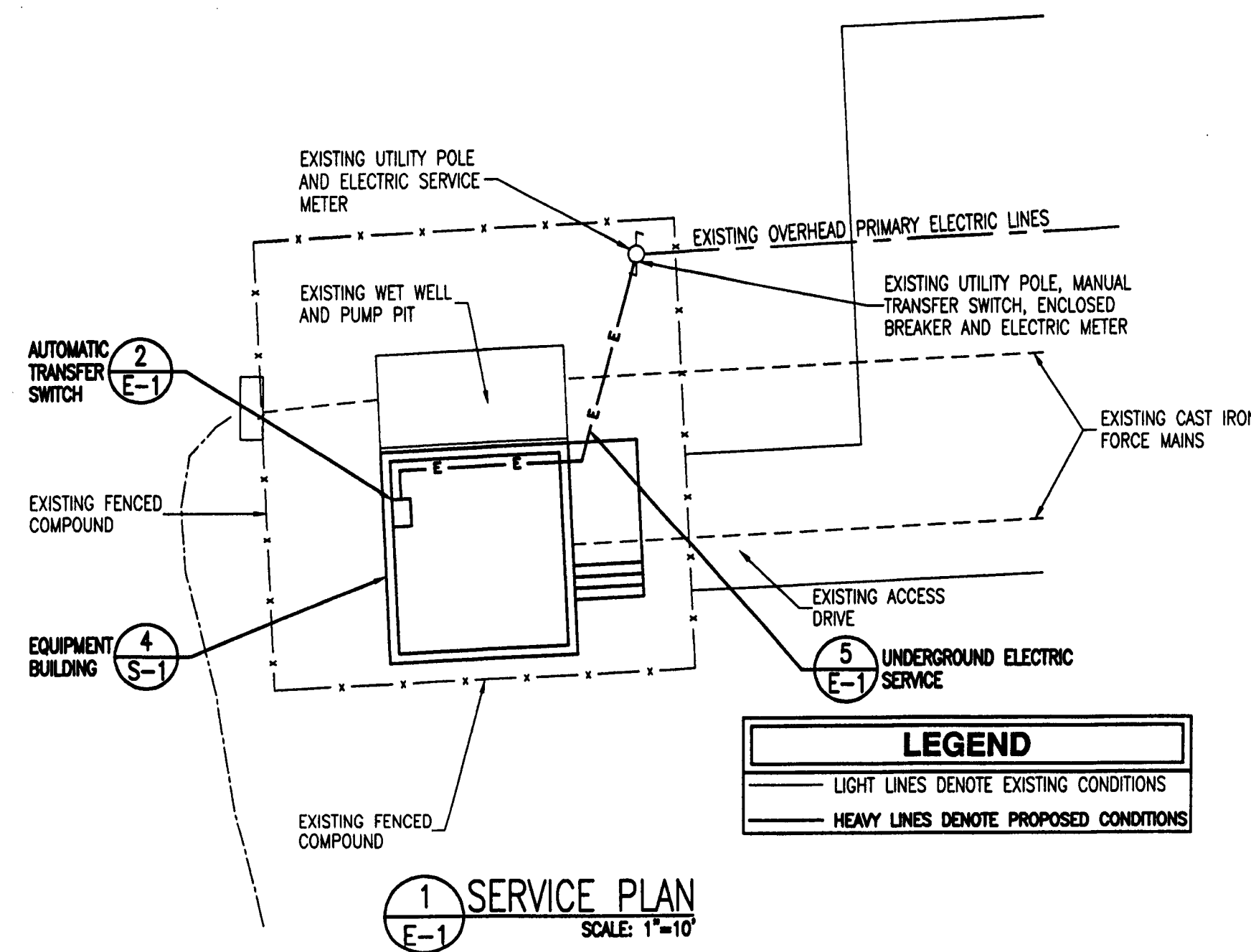
**SHEET TITLE**

MECHANICAL PLANS,  
DETAILS AND NOTES

**SHEET NUMBER**

M-1





- ### ELECTRICAL GENERAL NOTES
- SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
  - CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
  - VERIFY HEIGHTS WITH PROJECT MANAGER PRIOR TO INSTALLATION.
  - THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
  - COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
  - CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR COMPLETE AND FUNCTIONALITY. OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
  - ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "UL" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NFPA. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
  - ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES AND OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
  - ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
  - PROPERLY SEAL ALL PENETRATIONS. PROVIDE UL LISTED FIRE-STOPES WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. PROVIDE CUSHIONED, OVER-SIZED PENETRATIONS FOR REPRESENTATIVE PIPING. OUTDOOR WALL PENETRATIONS SHALL BE SEALED WATER-TIGHT USING SILICONE SEALANT.
  - LOCATE ALL PENETRATIONS SUCH THAT ALL REINFORCEMENT CONTAINED WITHIN THE EXISTING BUILDING CONSTRUCTION REMAINS INTACT AND UNDISTURBED. SUBMIT LOCATING METHOD TO THE PROJECT MANAGER FOR APPROVAL PRIOR TO EXECUTION.
  - DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
  - ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG, UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHN, RATED IN ACCORDANCE WITH NEC 110-14(c).
  - ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM AVAILABLE CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C. SERVICE EQUIPMENT SHALL WITHSTAND FAULT CURRENT ESTABLISHED BY THE UTILITY.
  - THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, ARTICLE 250 AND THE UTILITY COMPANY STANDARDS.
  - PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE WORK. PROVIDE MATCHING CEILING TILES WHERE DIRTED OR DAMAGED DURING THE COURSE OF THE WORK. ALL ROOF-RELATED PENETRATIONS AND ADHESIONS SHALL BE PERFORMED BY AN OWNER-APPROVED ROOFER. MAINTAIN ALL EXISTING ROOF WARRANTIES.
  - INTERIOR RECEPTACLES SHALL BE NEMA 5-20R, HUBBELL #3362, BROWN, WEATHERPROOF. GFI RECEPTACLES SHALL BE HUBBELL #GF3352, WITH WP26 COVER AND BELL BOX. INTERIOR RECEPTACLE BOXES SHALL BE 4" x 4" x 1 1/2".
  - MINIMUM CONDUIT SIZE SHALL BE 1/2" TRADE DIAMETER, EXCEPT FOR TELEPHONE CONDUIT WHICH SHALL BE 2" TRADE DIAMETER. PROVIDE 36" RADIUS SWEEPS FOR ALL TELEPHONE BENDS. PROVIDE 36"x36"x2" PULL BOXES AT EVERY 4TH TELEPHONE CONDUIT BEND AND AT EVERY 100' OF STRAIGHT TELEPHONE CONDUIT RUN.
  - CONDUIT:
    - RIGID CONDUIT SHALL BE UL Labeled GALVANIZED IRON COATED WITH ZINC. INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROWWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
    - LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
    - CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL TO PERPENDICULAR TO WALLS, FLOOR, CEILING, OR CEILING. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
    - PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS, EXCEPT WHERE PERMITTED BY CODE TO OMIT.
  - ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
  - UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION OR METHODS FOR REDUCING THE RESISTANCE VALUE.
  - CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNCHANGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS NOTICED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
  - COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
  - VERIFY ALL EXISTING CIRCUITRY PRIOR TO REMOVAL AND NEW WORK. MAINTAIN POWER TO ALL OTHER AREAS & CIRCUITS NOT SCHEDULED FOR REMOVAL.
  - LOCATE AND MARK-OUT ALL UNDERGROUND UTILITIES AND STRUCTURES THROUGH THE USE OF AN INDEPENDENT UTILITY LOCATING SERVICE PRIOR TO EXCAVATION. HAND DIG IN AREAS WHERE EXISTING UTILITIES AND/OR STRUCTURES ARE LOCATED.

**PP-1** PANEL PP-1 VOLTAGE 240Y/120/208V, 3Ø, 4W AIC 10,000 BASIS: SQUARE D HCN1465-4M - INTERIOR HC2665B - BOX HC4SN - SOLID NEUTRAL PK27GTA - EQ. GROUND BAR

☐ FLUSH ☒ PROVIDE W/ EQUIPMENT ☒ MAIN 400A ☐ BUS 400A ☐ SURFACE ☐ GROUND BUS ☐ MLO ☐ FEED THRU

ITEM	VIA DEVICE	HOME RUN	DESCRIPTION	BRK	CKT	LOAD / PHASE			CKT	BRK	DESCRIPTION	HOME RUN	VIA DEVICE	ITEM
						A	B	C (HIGH LEG)						
		3#3/0 & 1#6G, 2" C	VARIABLE FREQUENCY DRIVE #1	200	1	19,738	19,738		2	200	VARIABLE FREQUENCY DRIVE #2	3#3/0 & 1#6G, 2" C		
		2#3 & 1#8G, 1" C	PANEL LP-1	100	7	4,740	-		8	-	SPACE			
			SPACE	-	11	-	-		10	-	SPACE			
			SPACE	-	13	-	-		12	-	SPACE			
			SPACE	-	15	-	-		14	-	SPACE			
			SPACE	-	17	-	-		16	-	SPACE			
						44,216	44,976	39,476	18	-	SPACE			
						TOTAL DEMAND						128.7 = 323 AMPS		

NOTES: 1. SPACES SHALL BE COVERED W/ BLANK PLATES.  
 2. ALL BRANCH BREAKERS SHALL BE PLUG-IN TYPE.  
 3. EQUIPMENT LOADS SHOWN ARE ESTIMATES.

**3 THREE-PHASE PANEL SCHEDULE**  
 SCALE: NONE

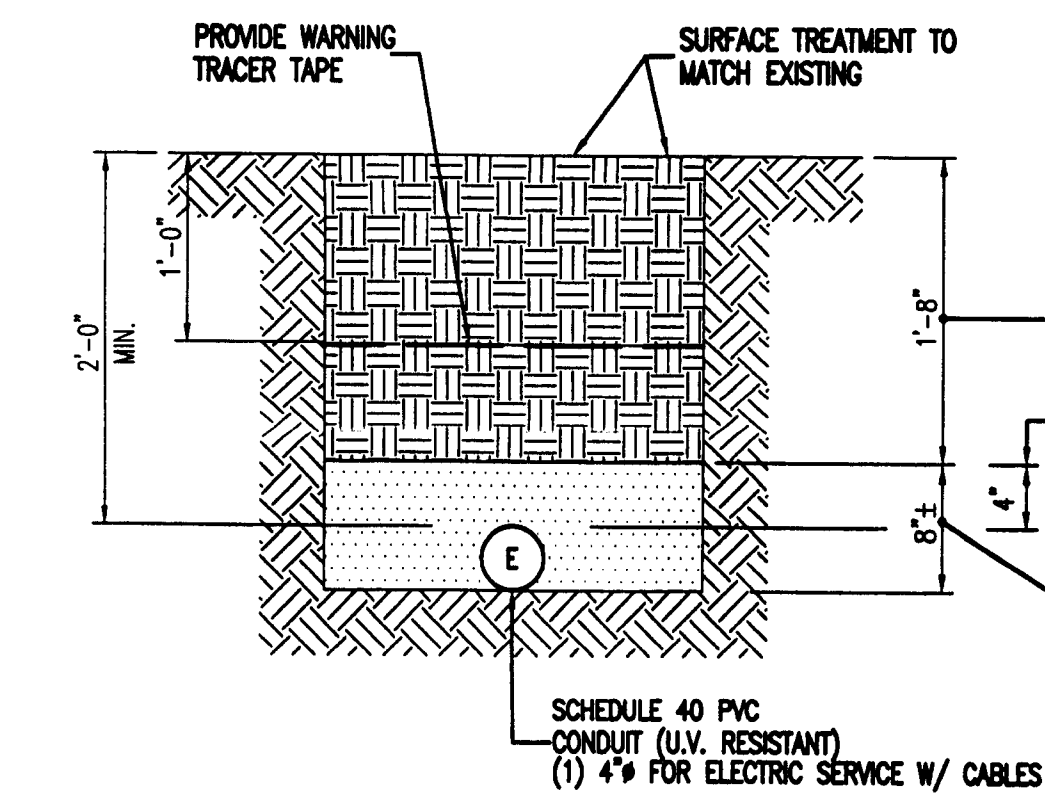
**LP-1** PANEL LP-1 VOLTAGE 120/208V, 1Ø, 3W AIC 10,000 BASIS: SQUARE D Q08-16L100S - BOX & INTERIOR PK7GTA - EQ. GROUND BAR

☐ FLUSH ☒ PROVIDE W/ EQUIPMENT ☒ MAIN 100A ☐ SURFACE ☐ GROUND BUS ☐ MLO ☐ FEED THRU

ITEM	VIA DEVICE	HOME RUN	DESCRIPTION	BRK	CKT	LOAD / PHASE			CKT	BRK	DESCRIPTION	HOME RUN	VIA DEVICE	ITEM
						A	B	C (HIGH LEG)						
		2#12 & 1#12G, 3/4" C	EQUIPMENT ROOM LIGHTING	15	1	400	180		2	15	EXTERIOR W.P. RECEPTACLE	2#12 & 1#12G, 3/4" C	(1) NEMA 5-20R (W.P., GFI)	
		2#12 & 1#12G, 3/4" C	EXISTING SUMP PUMP	15	3		720	540	4	15	PUMP PIT W.P. RECEPTACLES	2#12 & 1#12G, 3/4" C	(3) NEMA 5-20R (W.P., GFI)	
		2#12 & 1#12G, 3/4" C	PUMP PIT EXHAUST FAN & LIGHTING	15	5	920	720		6	15	EQUIPMENT ROOM RECEPTACLES	2#12 & 1#12G, 3/4" C	(4) NEMA 5-20R	
		2#12 & 1#12G, 3/4" C	EXISTING WET WELL EXHAUST FAN	15	7		720	1,000	8	15	EXISTING DEHUMIDIFIER	2#12 & 1#12G, 3/4" C		
			SPACE	15	9	-	2,520		10	30	EQUIPMENT ROOM HEATER	2#10 & 1#10G, 3/4" C		
		2#10 & 1#10G, 3/4" C	PUMP PIT HEATER	30	11		2,520	-	12	-	SPACE			
			SPACE	15	13	-	-		14	-	SPACE			
			SPACE	-	15	-	-		16	-	SPACE			
						4,740	5,500							
						TOTAL DEMAND						10.6 = 51 AMPS		

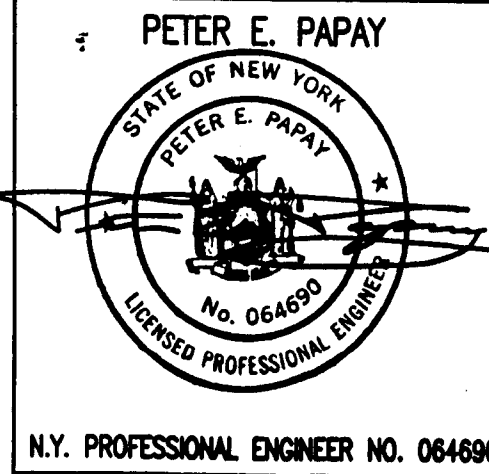
NOTES: 1. SPACES SHALL BE COVERED W/ BLANK PLATES.  
 2. ALL BRANCH BREAKERS SHALL BE PLUG-IN TYPE.  
 3. EQUIPMENT LOADS SHOWN ARE ESTIMATES.

**4 SINGLE-PHASE PANEL SCHEDULE**  
 SCALE: NONE



- NOTES:
- PVC SHALL BE SCHEDULE 80, UV RESISTANT AT ABOVE GRADE LOCATIONS.

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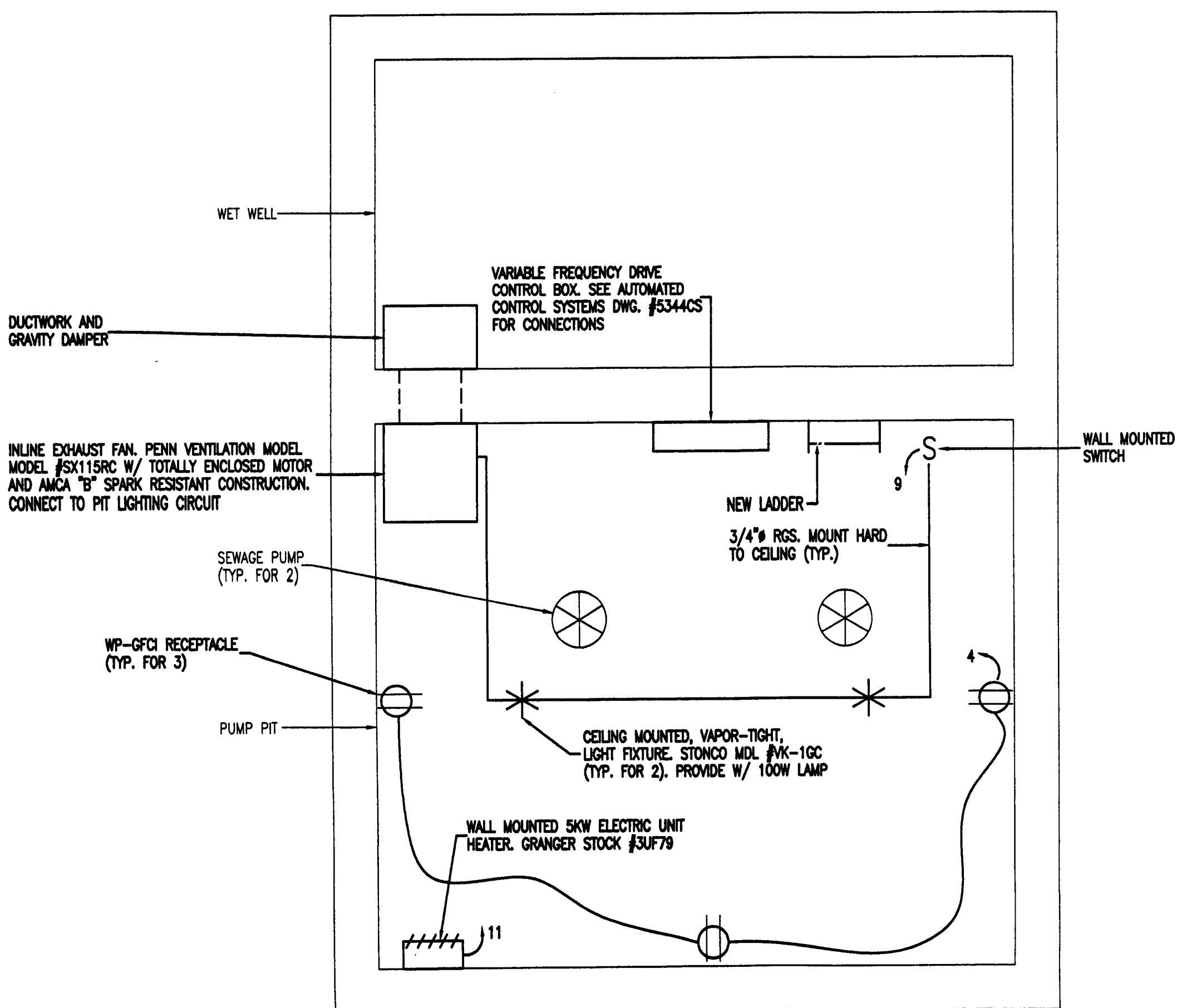
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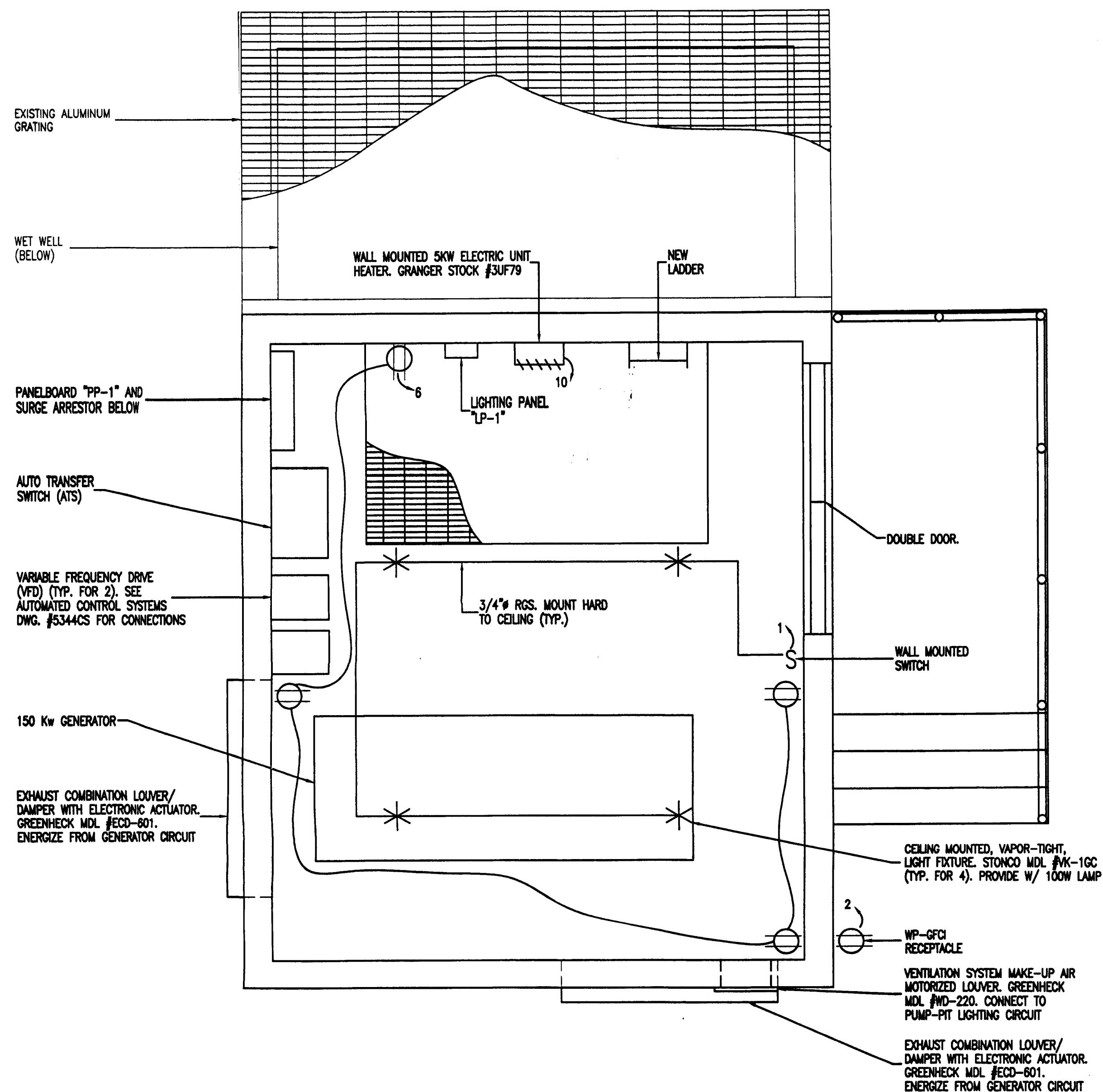
**SHEET TITLE**  
 ELECTRICAL PLAN,  
 DETAILS AND NOTES

**SHEET NUMBER**  
 E-1



LEGEND	
---	LIGHT LINES DENOTE EXISTING CONDITIONS
---	HEAVY LINES DENOTE PROPOSED CONDITIONS

1 PUMP PIT POWER PLAN  
E-2  
SCALE: 1/2"=1'-0"



2 BUILDING POWER PLAN  
E-2  
SCALE: 1/2"=1'-0"



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SHEET TITLE

ELECTRICAL PLANS

SHEET NUMBER

E-2

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